

Foma R-100

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Introduction

Goals

My film goals are to make films correctly exposed outdoors and even indoors under existing light, sometimes with synchronized sound. To that end I have pushed Foma R-100 8mm and even flashed it. 16mm and Regular 8mm have been used. **I feel the tests need to be documented.** I would like to be able to duplicate my tests and use the techniques whenever I want to. If it were all compiled into a DVD anyone else could also do the same. Most of the information is already on FB and YT. It just needs to be all put together. The idea is to make black and white films to project.

What I needed to do first was to shoot a roll of movie film and reverse it normally according to directions as it is supposed to be done. I began by purchasing a Kit from Foma, then later used another developer, LQR, from their tech sheet.

A playlist has been made to view these files on YouTube.

[https://www.youtube.com/playlist?
list=PLU2eKg3uAYHi6CZPnzxHvKSNaGr_13xYT](https://www.youtube.com/playlist?list=PLU2eKg3uAYHi6CZPnzxHvKSNaGr_13xYT)

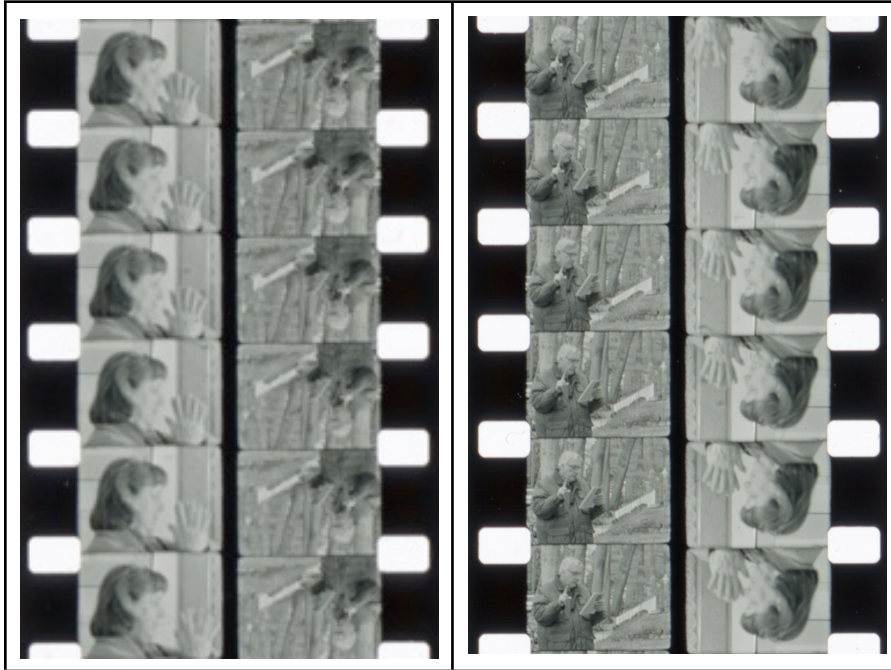
This pdf may be read from a printed copy and the videos watched on a computer. It may also be watched on a DVD.

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<https://archive.org/details/@studiocarter>

January 5, 2017



roll 1 was shot at 24 fps; roll 2 was shot at 16 fps; roll 3 was shot at 16 fps

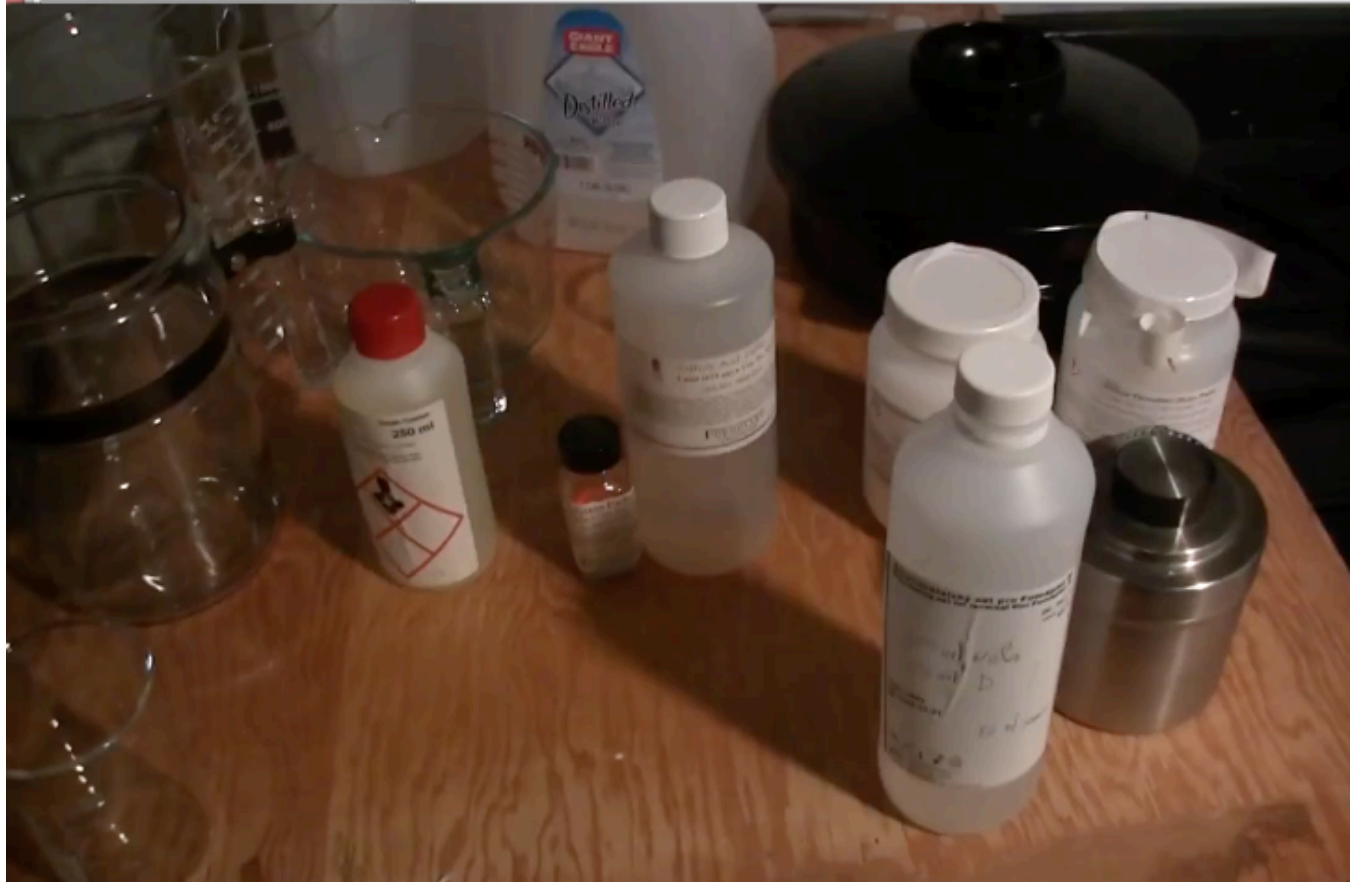
01 FOMA 123

https://youtu.be/RM-XsyGuI_k



02 DEVELOP FOMA

<https://youtu.be/3GYWdZrA83I>



Foma Tech Sheet

PROCESS R-100

FOR PROCESSING OF FOMAPAN R BLACK-AND-WHITE REVERSAL FILMS

In general

The Process R-100 is an analogy to classic processes for black-and white reversal materials. It is intended both for the manual processing in dish/tank and for the machine processing in developing machines. Both in the first and the second development the commonly available developer Fomadon LQR is used and recommended for optimum results.

If the developing machine used does not allow to provide the second exposure, a reversal bath formulated below should be applied (similar to E-6 Process).

R-100 Process scheme

	Process steps	Time (minutes)	Temperature (°C)
1	First development FOMADON LQR (1+10)	9 – 10*	20 ± 0,5
2	Washing (running water)	10	20 ± 3
3	Bleaching (FB-2)	5	20 ± 0,5
4	Washing (running water)	5	20 ± 3
5	Cleaning bath	3	
6	Washing (running water)	5	20 ± 3
7	Second exposure (or reversal bath)	5	
8	Washing (running water – after the reversal bath only)	10	20 ± 3
9	Second development FOMADON LQR (1+10)	9	20 ± 0,5
10	Washing (running water)	10	20 ± 3
11	Fixing (FU-5)	9	20 ± 3
12	Washing (running water)	30	20 ± 3
	Total processing time (excluding drying)	100–102 (110–112) **	
Note:			
*) developing time depends on the way of processing used			
**) information in parentheses is valid in case of reversal bath application			
safelighting (step 1 – step 6) – total darkness or infrared light			

Composition of working solutions

Reversal bath		Bleaching FB-2	
Water	900 ml	1 Potassium dichromate	5,0 g
Calgon (M19)	1,5 g	2 Sulfuric acid conc.	10 ml
or Chelaton III	5,0 g	3 Water to make	1000 ml
Tin dichloride	1,65 g		
p-aminophenol hydrochloride	0,66 g		
Sodium hydroxide	4,8 g		
Essigsäure 60%	11,0 ml		
Fixer FU-5		Cleaning bath FB-3	
Natrium thiosulfate 5 H ₂ O	250,0 g	1 Potassium disulfite	50,0 g
Potassium disulfite	25,0 g	2 Water to make	1000 ml
Water to make	1000 ml		
Note: To prepare processing solutions, distilled or (if not available) at least boiled water is recommended.			

The product has been produced and marketed in conformity with a quality system according to the international standard EN ISO 9001:2000.

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03 Foma R 100 sound sync tests

<https://youtu.be/-ObAbDZgJdg>

Page 1372 The file name is: Oct 14 cut.mov 2:10

Foma R-100 regular 8mm film in a Bell & Howell 252 and in a Bolex H8.
Developed in LQR 1:10 9 1/2 min and a short piece that is lighter at 12 minuets.
The projector and video camera lightened the images.



The first try at recording on Foma was sound sync tests. A Bell & Howell 252 f1.9 R8mm camera ran heavily, a Bolex Deluxe 8mm ran slow, the Zoom H4N didn't run at all?! Yet, I managed to get a video made. This is a screen recording of the projected film with the black bands trimmed off





A Bell & Howell 252 regular 8mm camera was used with Foma R 100 film.

1. Melita f1.9 INT Sun & ceiling light, mixed day and interior lights. The Weston meter read .8 to 1.6 inbetween those. 100 ASA 1/30 gave between f2 and 2.8. The Sekonic read 20- on the low scale, 1/30 was f1.4 the camera had a f1.9.
2. Me f1.9 INT dining room Sekonic was 20 f1.4 -1 ->2 or f2 ..1.4 the dot next to the 1.4. Weston was .8 and read f2. I thought it should be good. Five feet were shot.
3. EXT. Down, tilt up, Weston was 13+ 1/30 f8
4. Looking out the door window in the kitchen EST fright sun f16
5. INT Dining room from the hall, tripod, recording sound on the zoom H4N, trying to anyway, f8, oops
6. 8 winds f1.9 Weston .8 Sekonic 20- From the hall looking towards the table. The Microphone was on 65. A Canon mic had to be plugged into the recorder in the back to get it to work properly. The camera didn't run correctly very long. 18 feet were shot and I switched to a different 252 camera.

7. Side 2. The 3 lens older non-reflex Bolex worked much better, but too slow.

Foma didn't work in the Bell & Howell 252 cameras but UN-54 and 7363 did.

P. 1375 says 7363 was used in a Two Fifty Two and did well; it's on the first reel.

Page 1376 October 14, 2019 LQR 1:10 timed at 9 1/2 minuets room temperature. Bleach was new 5 minuets. Clear was old 5 minuets. Re-expose 2 minuets and I saw weak images. SD = FD saved 9 minuets. Fix 5 minuets. The LOMO small spiral was used for most of the film.

Film was dark but Melita looked good in front of a flash light.

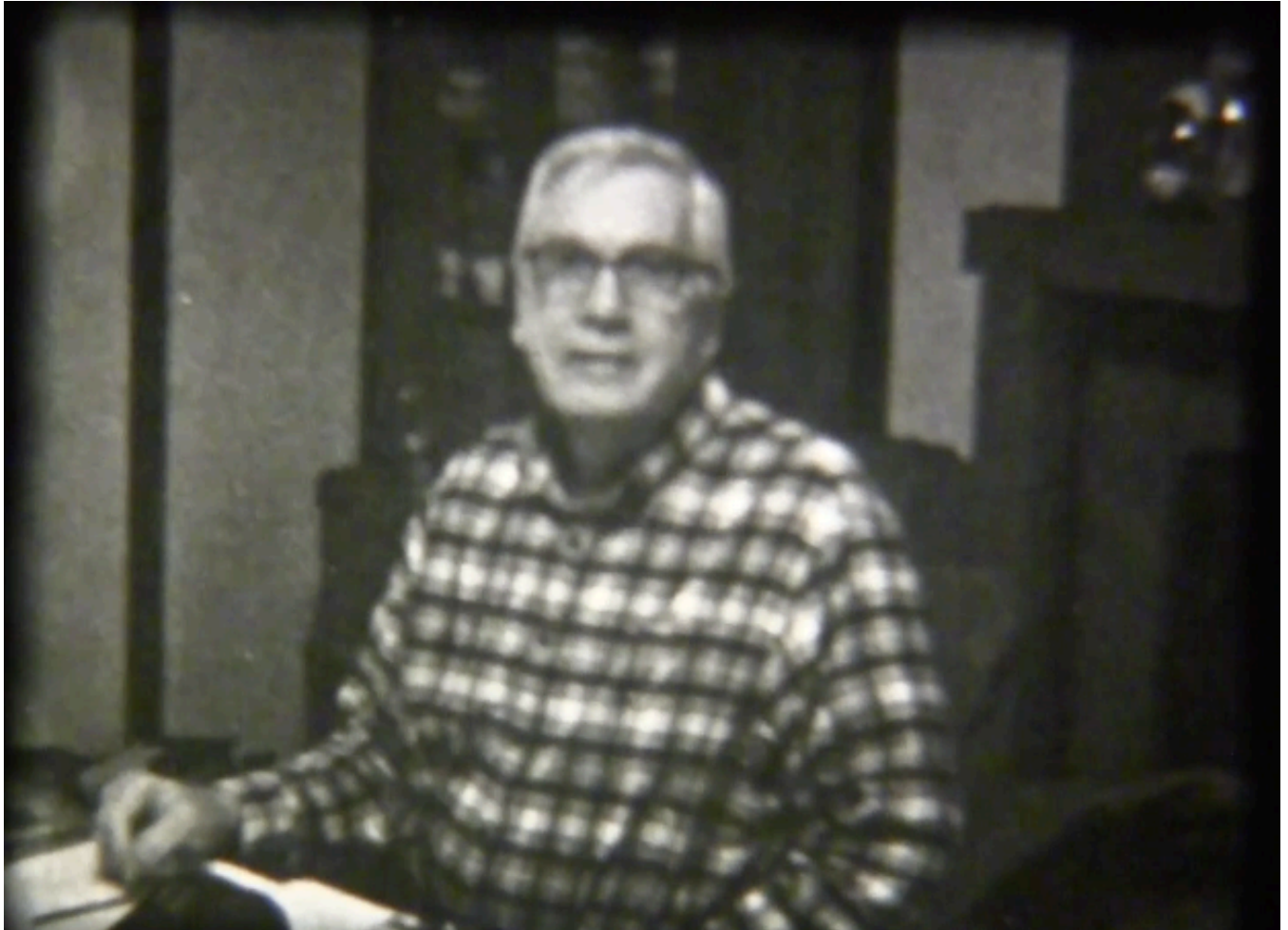
Not all of the film fit onto it, so that which was left over was developed in a Jobo tank. It was pushed to 12 minuets instead. SD was 8 minuets. d

Try 15 minuets next time.

They both looked good under a flashlight. Maybe they were done correctly. I didn't know. I had to slit and project them to see they were too dark.

04 Oct 14 B.mov

<https://youtu.be/La99bbk0mU0>



Page 1377 Foma shot in a B&H 252 and a H8. The Foma film is longer than what fits on the small Lomo spiral. I used it, then developed 3' more in the Jobo tank. It was not worth the trouble. Splicing was very confusing. The piece was shorter than I thought it would be. Developing took twice as long. If I had used the medium sized tank more developer would have been needed. The total film also does not fit easily on a normal Regular 8mm reel. It flies off it. I had to use a longer larger metal reel to keep it under control.

Foma is 100 ASA only in daylight, Tungsten light is 80 ASA. The films are underexposed.

The 12 minuet developed part looks much better than the 9 1/2 minuet part.

When the 252 labored the images changed in brightness. However, despite laboring, all the 252 images worked.

The start and halfway beginning and ends could be marked somehow like with a single frame of a business card or something like a slate to make it easier to figure which end is which.

B8

I gotta try this kit as is before a CLA. The H8 was too slow and labored during filming. This may work better I hope.



J. S. said: No! Before you use your Bolex make sure you send it out for a CLA. While the camera MAY run OK (at least for a while), the ancient lubricants inside

may cause more harm when the camera's run. I have never seen a small-body Bolex (like yours) that didn't need adjustments after 60+ years--much like my dad's Swiss Omega watch which, while it ran somewhat, needed a full CLA (and it's out now for that service.) You have a particularly unusual model, the B8VS, which was their first 8mm camera to include a variable shutter. That's a very, very handy accessory, since the film in your picture (Fomapan 100R) is a little too fast for use in bright daylight. With the variable shutter you can half the exposure time, and make it in effect an ISO 50 film, which you can use in bright light. Here's the expert in small-body (not H8 or the K-series) 8mm Bolex cameras: <http://www.bolexrepair.com/index.html> Incidentally, check for a processing lab that can handle Fomapan 100R without solarizing the film; that's a problem I've had twice with labs on the west coast.

Do you have advice on a place to clean and lube an H8?

No, though it's essentially any place that would service an H16. As a longtime (45+ years) user of 8mm Bolex equipment I'd think long and hard about fixing an H8 non-reflex camera, rather than use a small-body Bolex camera. The only real advantages of the H8 include the larger film capacity (and finding 100' of double-8 film would be challenging), the full backwind capability with precision frame counter, and the prism-focusing capability. Unless you're doing a lot of precision work those aren't really necessary, and the small-body cameras are much more convenient. Also, you'd only get a variable shutter in the H8 Reflex line.

I asked about how to send it to them because there is no address. He answered and I did it and the results are fine.

Light Meter

R8mm Foma R-100 reversed in a B8 Bolex camera.

Light at my seat at the dining room table is 20+ at best on the low scale.



Foma R-100 is 80 ASA under Tungsten light, so one click below 100 in the little white window left center on the meter.

The black pointer is set to the right edge of the 20 white rectangle.

16 frames per second is 1/38. That would be one white dot to the right of the 1.4 mark. 30 is above it here.

1/50 is on the second white dot.

Both are below the range of the lens on the camera.

The Switar lens is a f1.5. That would be one white dot to the left of 1.4. So, pictures would be underexposed and too dark, which they were.

1/3 of a stop is very different reversed.

The meter isn't calibrated to zero out, but a little higher.

I took my light meter to a family gathering, Thanksgiving at Peter and Patty's, to see if I could shoot film there some other day. Despite them having four light fan chandeliers with four lights on each, light was the same as the lowest in my house. It was a BIG room. So I figured that I could film there. 20- was the brightest and 15 mostly on the low scale of an incident meter. That put the exposure between f1.4 and f1. Push processing makes it f1.5 or more and looks good in my tests so far. Flashing the film raises the exposure even more so that another stop can be used f2 or f2-2.8 I bet. Instead of 16 fps, 24 fps could be used and leave the lens wide open. The film that had been flashed and exposed wide open is too light. Changing the run speed higher would darken the film. Pushed and flashed pictures at 16 fps are too light while the pushed only pictures look great at 16 fps. Slower frames per second like 12 or 8 fps are even lighter, way too light. So, the iris must be closed even further; all this does is increase the depth of field of the focusing range from minuscule to about right. Or use sound sync speed.

Bolex P1

The viewfinder is what I have been looking for. It is huge and bright. I can see to focus indoors in room light easily. It has a split screen diagonally. It is reflex. So, I bought a P1 manual and a battery adapter for it. It will be CLA.

The meter needle sticks sometimes on one side, the right side, the light side. And the footage counter is now stuck on 10 feet. It did work. I fixed the case.

Filming Speed	Variable Shutter Open	
	Normal or Continuous Running	Single-Frame Exposure
12 f.p.s.	1/29 sec.	1/27 sec.
16	1/38	1/30
18	1/43	1/30
24	1/58	1/30

Bolex B8

A Bolex B8 with a variable shutter will be sent to be CLA tomorrow. I have Switar lenses, 12.5 and 5.5, and the shutter is 1/35 wide open. Nice.

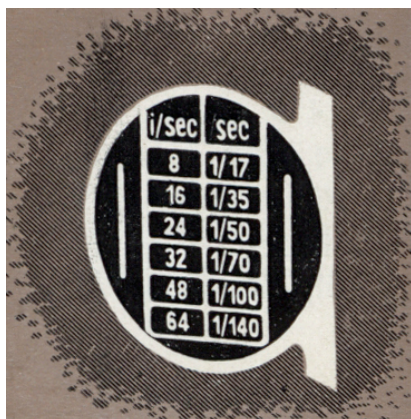
A CLA was bought. It cost \$167 plus my shipping of about \$20 more.



05 11-18-2019 Bolex B8VS

<https://youtu.be/G7lThCfhUjw>

This is a laid back vlog about getting started filmmaking with a Bolex B8 camera that has a variable shutter on it. Hardly any editing was done to the video. I did find another viewfinder adapter that is marked 5.5mm and I replaced the 6.5mm one that was put onto the camera in the video. There are other D mount black bolex lenses with a H8 camera that fit onto this camera that could also be used. Normal C mount lenses could be used instead of D mount lenses but they become more telephoto. The H8RX lenses should not be used.



Shutter Speeds

The B8 manual refers to a tag on the side of the camera. The B8VS has a shutter there in place of the tag. The shutter speed is different from the P1.



MAIN PARTS

Footage counter

The footage counter automatically indicates the amount of film that has been exposed. The part of the scale between 'F' and 'O' corresponds to the length of the leader. Therefore, start filming only when the figure 'O' appears under the colored dot.

Note : The counter automatically returns to the starting point when the pressure-pad lever is operated in the course of loading or unloading the camera.

Audible end-of-film signal

An audible warning signal is heard when the counter registers 25 ft. (7,5 m).

Speed control

The speed control enables the filming speed to be varied between 8 and 64 frames per second, even while shooting is in progress. The normal filming speed of 16 frames per second corresponds to the projection speed for silent films. Films shot at a slower speed (8 frames per second) produce an illusion of accelerated motion on the screen, while films shot at higher speeds (say 64 frames per second, for instance) produce a slow-motion effect.

Exposure time and filming speed

Continuous running : The exposure times corresponding to filming rates between 8 and 64 frames per second are shown on the table on the side of the camera.

Frame-by-frame shots

The exposure time is approximately :

- 1/17th second at a rate of 8 frames per second
- 1/25th second at all other speeds.

06 12-07 B8 Foma Flash short

<https://youtu.be/mkUWP1WDy38>

The Video run time is 4:14 in length.

Foma R-100 regular 8mm black and white reversal film was used in a Bolex B8 camera to pre-flash the film on one side. No adjustment was made to the exposure on the flashed side. The exposure used would have looked as dark as the other side that was not flashed if the iris had been closed down a stop or more. The next time I do this I will bracket the exposures on the flashed side. The flash could also be more or less. And the white card was too light. A gray card would have been better to use.



07 12-07 B8 Foma Flashing

<https://youtu.be/LID9LEQlb0w>

This is a 30 second short introduction. A Bolex B8 was used with Foma R-100, indoors, under available light, and the film was pre-flashed to make it faster, then push developed.

08 December 15, B8 push flash adjust

I finally shot a test where I adjusted the iris smaller to compensate for the flashing of the film. It didn't really work. Less flashing is needed. Or something. I just wanted to do the whole thing from start to finish. It was flashed, shot, developed, slit, spliced, projected, videoed, and now reported on.

<https://youtu.be/JFRVDXfESzk>



Aim more to the right with the 12.5 lens.

This is the first test film that was all made in one day. I had to find the splicer, clean the room, and figure out how to do the test. Took a while. Flashing was 4 1/3 stops less light. The film was pushed, LQR 1:10, 78 degrees, 18 minutes. The exposure was reduced one stop on the 12.5 and 2/3 stop on the 5.5. Didn't work. Less exposure and more developing is needed and or less flashing. Try 6 stops less light to flash with.

There were other tests made before this one, but this is the first with the iris adjusted to the flashing. I want to project unflashed other tests to see what the pushed film looks like projected.

Is this looped film? Yes. I toned it but the toner didn't do much. Try new toner. Try flashing differently such as off a gray card not off a white card.

Yes, less light on the flash would impact the image better.

And a test showing what the film looks like developed 18 min without any flashing would help.

December 15, 2019
Foma R-100
B8
flashed -4 1/3 stops
pushed developed in
LQR 1:10, 78f, 18 min.
The lens 12.5 was closed one stop
The lens 5.5 was closed 2/3 stop



09 Dec. 16 R8mm 10 tests Auto Mode

<https://youtu.be/ylpNrJSBPrs>

The video camera was on auto everything and it auto corrected the Foma R 100 double 8mm film. 10 different developing tests were made then slit and all spliced together here. The last one is best and shows the way forward. I want to be able to project my films to look bright. I want to film in normal low room light. That light is about 20 or less foot candles. The Switar f1.5 lens must be used wide open on the Bolex B8 camera. LQR was used at a 1:10 dilution different times and temperatures. The last was 20 minuets and 80 degrees. That leader is lighter than the others and is the limit or close to it, using that temperature.

This video shows the complete film with all the parts as do these photos from it. Some look really good as video but not as film. I just wanted to see all the parts. The next video only shows the last parts of the film.

After this video had been done I continued to look at ways to improve the video copies that were not showing true colors or values. The video camera has manual settings that I'd never mastered. The next day they were.

The images of James at the dining room table looked good to me. I wondered why. James was closer to the light. The film needs much more light. It got some in that shot.

The room light was on in the first 4 images here.











Now if only I could film and develop and project images to look like that.

Notes Sheet tests 1-10

8mm FILMS - Unsolit

- ① ✗ Peroxide bleach HC-110 B 66° 12 min
→ EXT straight back
→ INT Me head shot → ①.5 10-14-19 7363 BH252 HC-110
- ② ✗ 10-15-19 7363 HC110 75mm Brackets
- ③ ✗ James & Me. Dark good film 6'
10-16-19 FOMA
13m LQR 1:10 Some is blurry.
- ④ ✗ Perfect exp. Me EXT 12.5, Me int 5.5
LQR 1:10 15min 10-16-19 FOMA
- ⑤ ✗ ~~11-18-19~~ 11-18-19, 2 films on one hook.
2nd is 12 feet long, no label. EXT
double exposed
- ⑥ ✗ 1 ST is 7-8' INT EXT too light
Me inside 11-18-19 labeled.
- ⑦ ✗ 10-17-19 65° LQR 18m 65° Me ^{18mm} good exp. 7'
- ⑧ ✗ 10-18-19 FOMA LQR 1:10 74° 15m INT Me
- ⑨ ✗ 10-18-19 FOMA LQR 1:10 78° 18mm INT Me
- ⑩ ✗ 10-18-19 FOMA LQR 1:10 80° 20mm INT Me
Leader is lighter at 20mm but pictures are great!
Don't flash.

10 Dec. 17 Manual Mode

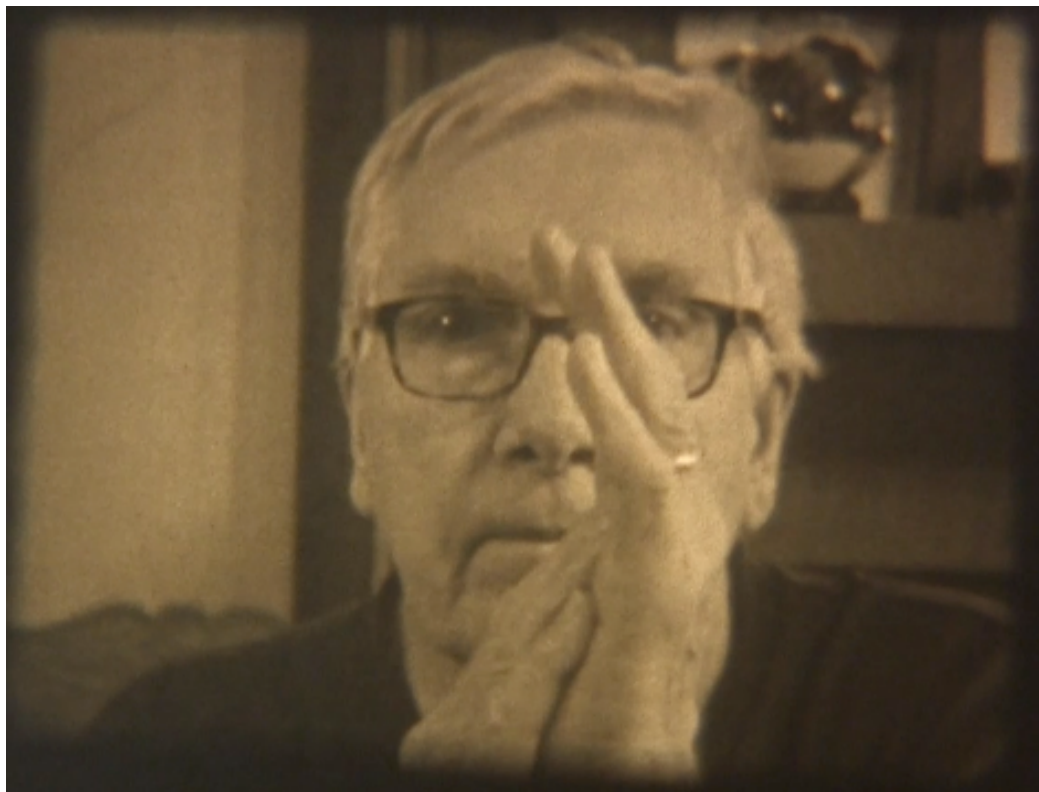
<https://youtu.be/DoqwZ03T2pw>

My Canon Vixia HFM50 video camera was set onto Manual. Focus was manual at 7.2 feet. White balance was on manual but not activated. Exposure was darkened to -1.75, that was good for the bulk of the underexposed underdeveloped shots, but just a little bit too much for the last and best more correctly pushed developed shot of me. This is the first time I was able to video projected film to make it look like what it had projected as.

The film is FOMA R-100 Regular Double 8mm shot in a Bolex B8 and a little in a Bolex P1 in zoomed in double exposures. Light indoors was 20 foot candles. Not very high. I am very close to getting nice projected images in that light. Film was developed in LQR different lengths of time at a dilution of 1:10 and at different temperatures.

My latest tests show exterior shots developed normally, not pushed, and they are dark. Why is that? It was a dark day.

The last shot was developed the longest and the hottest. LQR 1:10 20 min 80f



The leader was gray not black. So, tone it in Selenium to darken it. Mix new clear to get rid of orange, Try more exposure with an additional lamp. The new lens would lighten it. Develop longer.



This is about how the film actually looks projected. Auto on the video camera makes it more acceptable. This is becoming pretty good, but is not there yet.

The computer screen was set to the brightest it could be while this was recorded.

11 Setup and First Shots

<https://youtu.be/ztO6MkZqZcl>

Dec. 22, 2019 Bolex B8 camera, Foma R-100, interior setup with normal room lights. This video shows the basic setup and filming procedure. I had to learn how to load the takeup spool properly. None of the films taken survived as they were double exposed later. The video is on the next page.



These are the video notes of previous attempts to film interiors in existing light.

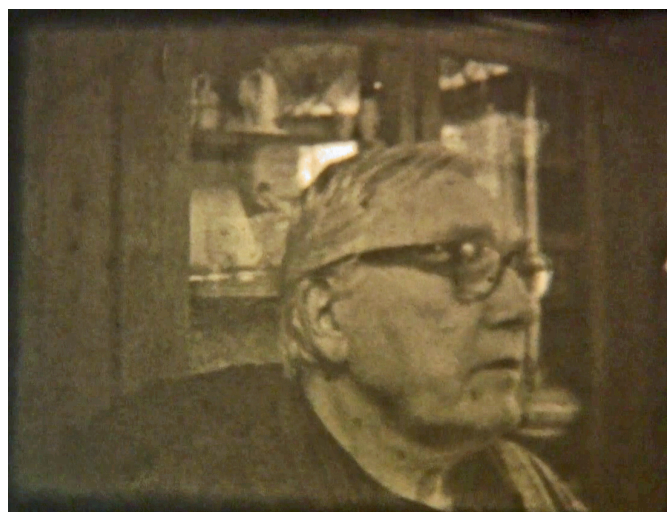
I had no samples remaining and had to repeat the whole thing over again, which I began to do.

The shot of me shown above has corrected parallax. It was explained how that was done in this video. But I did it in that video sample by looking into the lens. This one is the one that was explained.

The camera was 5 feet away in this shot. The picture is off to the right too much and I want less space above my head. I had to move to avoid light reflections in the china cupboard door.

The camera was 6 feet away this time and more space was all around me so I wasn't too particular about using the arrows in the viewfinder.

We'll see.



12 12-23 Foma R 100 in B8 exposure titled

<https://youtu.be/BAXazok1L9s>

Exposed Dec. 23, 2019 and Noted on page 1475, titles were added later. The video camera was on automatic.

Foma R-100 was push processed so I could take pictures indoors with normal room lights at night and the next day with some additional daylight streaming in the bay window. It lit the china cupboard up. A Bolex B8 camera was used with the Switar 12.5mm f1.5 lens and the Switar 5.5mm f1.8 lens. They were used wide open in every shot. Parallax was solved by placing the business card in the bottom left quarter of the viewfinder window at 9 inches away. That centered it. 80 asa was set but push processing raised the speed about to 160. LQR 1:10 timed to 20 minuets at 78 degrees Fahrenheit. 15x and 3x agitation was used. The red safe light was used. Leader is lighter than other developings but still black. The film was put into old Selenium toner 10 minuets. It may have helped. It may not have because there was a black deposit in the bottle. The video camera was on auto and changed images just a little since the projected images were just fine as they were. The Revere P-90 projector was used.

FOMA R-100
Regular Double 8mm
Bolex B8
normal room lights at night
All the lights were on
20 foot candles mostly
15 foot candles on things farther away
f1.5 Switar 12.5mm lens mostly
16 frames per second and some 12 fps
Wide angle shots were 12 fps
Then, the next day with added daylight mixed in

	<p>01</p> <p>20+ light The shade was off of the floor lamp Night, all lights on 12.5mm 16 fps f 1.5 6 feet away, 4-12' in focus supposedly Tripod</p>	 <p>Camera was 6 feet away</p>
<p>02</p> <p>20+ light The shade was off of the floor lamp Night, all lights on 12.5mm 12 fps f 1.5 6 feet away, 4-12' in focus supposedly Tripod</p>	 <p>12 fps 12.5mm lens 6 feet away</p>	<p>03</p> <p>20+ light The shade was off of the floor lamp Night, all lights on 12.5mm 16 fps f 1.5 11 foot focus pan</p>
		 <p>11 foot focus 12.5mm 16 fps f1.5</p>
<p>04</p> <p>No living room lights were on</p> <p>12.5mm 16 fps f 1.5 9 foot focus</p>	 <p>9 foot focus 12.5mm 16 fps f1.5</p>	<p>05</p> <p>80- light 12.5mm 16 fps f 2 - 2.8 2 foot focus</p>
 <p>80- foot candles under the lamp 2 ft focus, 12.5mm 16 fps f2-2.8</p>	<p>06</p> <p>16 fps</p> <p>3 foot focus</p>	 <p>3 ft focus, 12.5mm 16 fps f1.5</p>

<p>07</p> <p>5.5mm</p> <p>f 1.8</p> <p>12 fps</p> <p>10 foot focus</p>	 <p>10 ft focus, 5.5mm 12 fps f1.8</p>	 <p>10 ft focus, 5.5mm 12 fps f1.8</p>
<p>08</p> <p>bottom left parallax alignment</p> <p>12.5mm</p> <p>f 1.5</p> <p>5 foot focus</p>	 <p>The next morning The parallax pointer was set to the top of the lamp</p>	<p>09</p> <p>bottom right parallax alignment</p> <p>12.5mm</p> <p>f 1.5</p> <p>5 foot focus</p>
	<p>10</p> <p>bottom right parallax alignment</p> <p>12.5mm</p> <p>f 1.5</p> <p>12 fps</p> <p>4 foot focus</p> <p>end of side one</p>	 <p>f 1.5 4 foot focus 12.5mm f1.5</p>
 <p>I hear the film ending</p>	<p>Side Two</p> <p>11 & 12</p> <p>20- light</p> <p>f 1.5</p> <p>12.5mm</p> <p>9 inch focus</p> <p>Daylight is added to room light now</p>	 <p>9 inches Parallax correct</p>
<p>Parallax</p> <p>The subject up close must be placed into the bottom left of the view finder window.</p> <p>The finder aims to the top right to get a picture in the bottom left to center onto the film</p>	<p>13</p> <p>20- light</p> <p>The camera was 7 feet away on the table Focus was Red 6 12.5mm f 1.5 16 fps</p> <p>The top of the chair was set in the bottom left of the viewfinder Only the two lights in the dining room were on</p>	 <p>Focus on Red 6 7 feet away, 20- foot candles f1.5</p>



13 12-23 Foma R100 in B8 & Revere 85

https://youtu.be/OA3_Vo0wb8

The same film only projected using a Revere Model 85 regular 8mm projector. It is projected upon the same beaded glass screen, which adds a lot of grain to the image. I have not tried it on a smooth surface yet. The video camera was on automatic so the color is gone but the image was very sharp. Flickering was less of a problem than when I used the larger Model P-90 Revere projector. I could vary the speed more with this smaller projector.

BTW, this film was exposed all in natural light which was about 20 foot candles. Not much. Normal room lights. The darker parts of the room like the mantles were less light, 10-15 foot candles, yet they show.





14 Foma R 100 12-23 B8 Model 85 onto a canvas screen

<https://youtu.be/y40uJUR4mX4>



This video was the same 8mm film projected onto a canvas this time. There was too much texture from the beaded glass screen.

It was put onto Face Book, the You Tube download of 14.7 MB. Then it was downloaded from Face Book and it is only 5.6 MB. Deleted. Not as good.





15 Foma R 100 20 min Dec 24, 2019

<https://youtu.be/-22sptisZe8>

Development was 20 minuets at 78 degrees F, not 80 degrees. Some scenes are too dark projected and they would have been lighter if the higher temperature had been used. It is a subtle thing, exposure and development. I wanted a darker leader, higher D-Max so used the lower temperature like the tests of me done just before this one. If I expose at night then I should develop at 80. Day indoors is just a little lighter and it works fine. When the new lens arrives, 0.9 Switar 13mm D-mount, I'll just add more light at night. The video camera has trouble focusing at times on automatic. The film camera was a Bolex B8 that had a new CLA. All projected scenes were sharp except William behind Chris because I focused on Chris and then saw Will behind him. Oh well.

December 24, 2019
Foma R-100
shot in a Bolex B8 camera with
12.5mm and 5.5mm Switars wide open
20 foot candles at best.
Developed in LQR, 1:10,
in a LOMO UPB 1-A spiral tank
20 minuets at 78 degrees F
15x to begin, then, 3x agitations every 30 seconds
FD was saved as SD, 74F, 10 min.
Dichromate bleach 5 min, Clear 6 min
re-exposed 2 min.
Fixed 4 min
Selenium toned 1:10 at 5 minuets 68F



This is a Screen Recording made using Quick Time Player to trim the image of excess black bands and to remove the first and last parts that were video and not film.

I learned to brighten the computer screen during the screen capture to lighten the images.

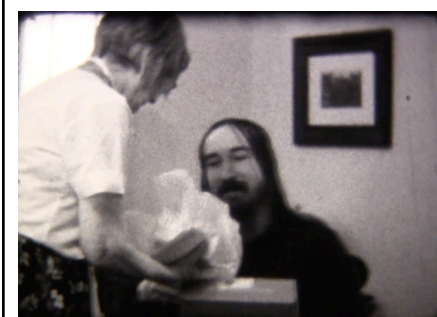


16 Foma R 100 Reg 8mm Dec 24 5 2019

<https://youtu.be/WIVEkMEP2mQ>

Toning was applied to this one as was to the last one, however, too much toning has made these films too dark. This one was developed longer, and as a result should be lighter, but it isn't. Toning kept it dark. This one was presoaked 5 minuets. The last one was presoaked only 1 minuet. Otherwise both were developed and exposed the same.





17 Foma R-100 22 min Regular 8mm Jan 8, 2020

<https://youtu.be/bXi8iaUpfP8> Screen recording.

The 5.5mm lens is just too dark at f1.8 to use in the house with available light, unless, everyone wears light colored clothing, the shutter is open all the way, 12 frames per second is used, and actors move slowly.





That last shot of me, and the one of Melita in the red chair, both look great projected.

Jan. 8, 2020
Foma R-100
Bolex B8 camera
20 foot candles more or less

Developed after a 5 min. presoak
in LQR 1:10
78 degrees F
22 minuets
Re-exposure 2 min
SD=FD saved 10 min at 73
fix 4 min
no toning
2 hours 15 minuets to develop it

17b Jan 8

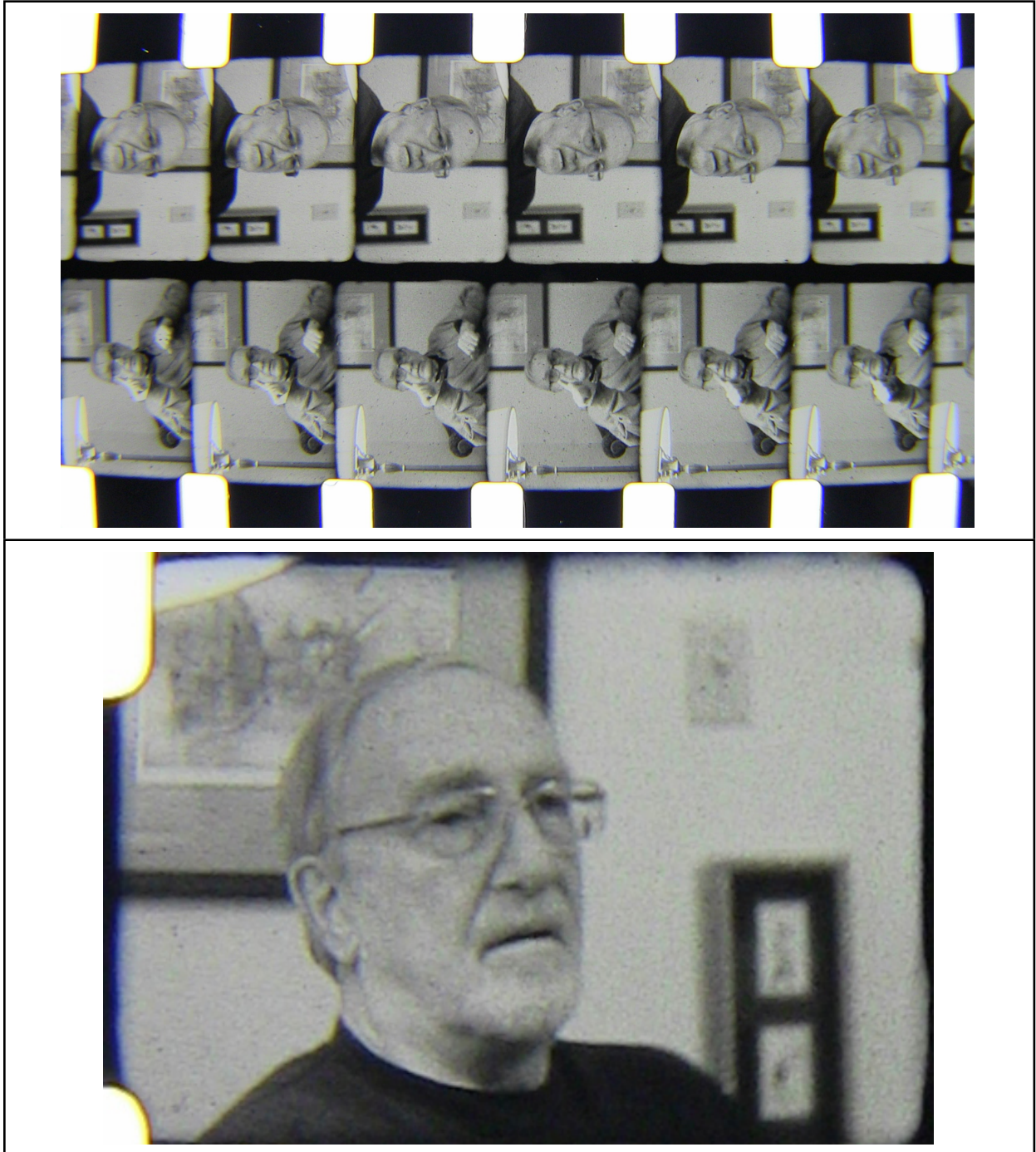
<https://youtu.be/B3qYtfZXsl4>



18 Foma R 100 22 min. Nat

<https://youtu.be/OMpUUM1GNPs>

I think the red reel. It was to be cleaned so it would not scratch. Jan 14th. 22 min. like the one before. Notes were p.1499-1500. 25 min was next. f 1.5 all.



 Author

Michael Carter The last roll of Foma has my brother on one half and me at 24fps on the other half and I don't want to mess up pictures of him so I wait for more LQR.

The film was un-slit on a 50 foot roll of 8mm, really full. It is to be cleaned along with that red reel. Then it will be slit, not before. These photos were made on the light box. Nat was filmed at 16 fps. Notes are on p. 1499 and 1500. This was developed at 22 minuets like the previous one I am pretty sure because the next one was to be at 25 minuets and was on 16mm.

The difference in darkness or lightness between this film and the one that has Melita, James, and Me on it is due to the ways they were projected and copied into still images.

The next film test is so bright that the one of Nat could not have been developed 25 minuets. I never did that with R8mm. The 16mm test was the first time 25 minuets were used.

Develop

Jan. 29, 2020 Wednesday

The film was wiped, using old cloths, using Film Renew, and using dry cloths. Drying took the most passes. Use a fan instead and the film drying rack. Then the film was slit, wound, spliced, and connected with the red 50 foot reel. The red reel was cleaned and dried also. Extra leader was added to the ends and removed inbetween the two films. Blue 5 inch reels were used.

A white canvas was used to project on. The P-90 was used and the wide angle lens was removed. I sat on the couch. The projected image was smallish. The video camera was put in Manual mode and had to be focused again after zooming in.

The Melita opens a package movie is first. It is dark. The camera must be set to +2 or more in manual exposure. +1 worked well for most of the next film.

Foma R-100 regular 8mm filmed with a B8 Bolex camera at f1.5 in 20 foot-candles. LQR at 1:10 at 78 degrees at 22 minuets, 15x 3x bleach 6 clear 6 fix 4.

New LQR. SD was FD, 10 min., re-exposure would have been 2 minuets. This video was made using Quick Time Player and was a Screen Recording off the timeline of FCPX. No master file had yet been made. The excess black areas were trimmed off with QT player.

To get rid of scratching the film was dried a day at least, then it was cleaned, the projector was brushed out and blown off. The film, this one of Nat, was cleaned before it was slit.

The film of me shows nicely the framing at different distances away from the subject. I hold up my fingers to indicate how many feet away the camera was and then I hold up 2 and 4 fingers to show that it is being filmed at 24 fps. Four feet away I had the camera pointing too high. Left and right was good though.

Shutter Speed Calculator

Q: [3.10] How do I find the shutter speed of my camera?

A: I will eventually add a table of exposure times for each camera on their respective page. However, you can easily determine the shutter speed for your camera by using this simple formula:

$$\text{Exposure Time} = (\text{fps} \times 360) / (\text{Shutter Angle}^\circ)$$

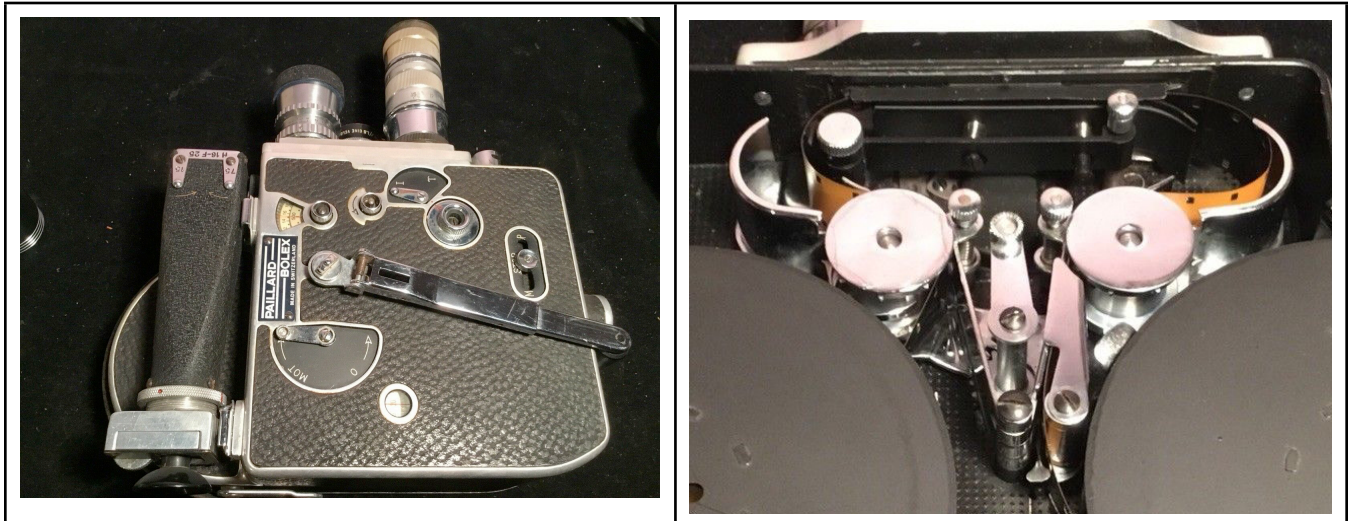
For example: Let's say your camera is an early model H16 with a 190° aperture shutter disc. If you want to determine the exposure time while filming at 24fps, you multiply 24 (the number of frames per second) by 360 to get **8640**. Take that product and divide by 190 (the aperture degree of your camera's shutter) -- the dividend results in 45.4736842, or **1/45 second** exposure time.

Incidentally, if you have a list of exposure times (from a chart or user manual specific to your model) and want to determine the angle of your shutter aperture, you can use this formula:

$$\text{Shutter Angle}^\circ = (\text{fps} \times 360) / (\text{Exposure Time})$$

Return to index

H-16 Leader 2R Camera



19 16mm R-100 25 min

<https://youtu.be/TWCdqRzgeCc>



A Som Berthiot 25mm f1.4 lens was used at 1.4, 1.4-1/3, 1.4-2/3, and f2. Light was 20 foot candles. F2 looks best. That would be about 160 ASA, one click lower than 200 asa. 16 fps was used in an older Bolex H16 2R camera with a 190 degree shutter.

This film was developed at 78 degrees for 25 minuets in LQR 1:10

Now that means that a Bolex P1 camera may be used instead. It has a huge bright reflex viewfinder to allow easy focusing. The lens is a f1.8.

Foma R-100 16mm 2R

Jan. 16, 2020

Som Berthiot 25mm C mount f1.4 len
focused at 8 feet

Bolex H-16 2R camera from 1946-1947

Developed Pushed in LQR, pre-soaked
1:10, 78 degrees F, 25 minuets

Bleached and Cleared 7 min. each in used chemicals
Re-exposure 2 minuets





SD=FD 10 minuets at 74 degrees F
Fix 5 min

Leader is medium black, still black enough.

Foma 16mm spools are plastic, non standard, too large, and jam. Transfer to Kodak spools, twice, to preserve numbering, in the dark of course.

20 16mm R-100 30 min

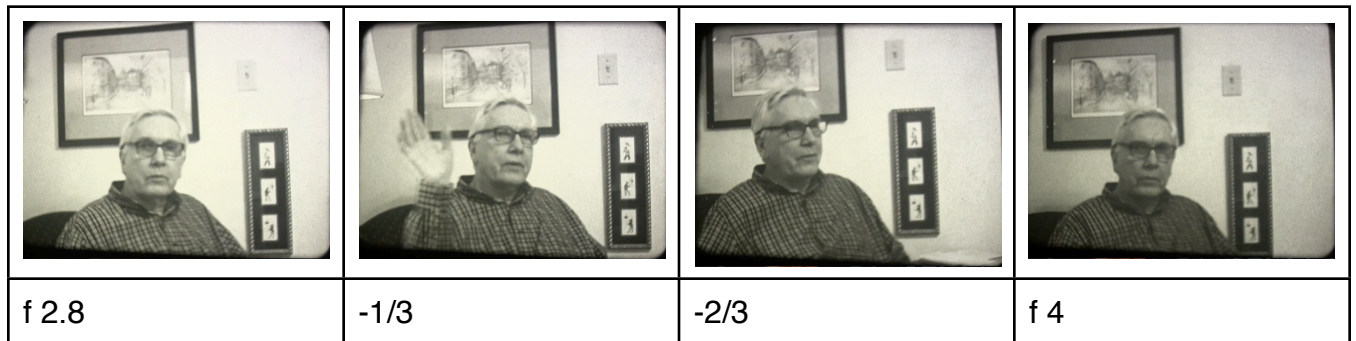
https://youtu.be/zq_C6QS7M5c

			
f 2	f 2 -1/3	f 2 -2/3	f 2.8

The Foma film was pushed developed 30 minuets at 77 degrees just in case it got too light. It didn't. The leader is still dark. 20+ foot candles. 1/30, 16fps, f2, -1/3, -2/3, f2.8. The 25mm Som Berthiot f1.4 lens was used at 8 feet. LQR 1:10. Presoaked. 2 min re-exposure. Second developer was 10 min at 76 degrees, which was the saved FD.

21 16mm R-100 45 minuets

<https://youtu.be/yt1AVk2WEP4>



45 minuets was a lot more developing but even more is needed to get 800 ASA to look bright.

Jan. 19, 2020



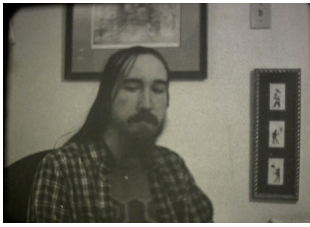

Foma R-100 16mm 2R
Bolex H-16 Leader 2R from 1946-1947
Som Berthiot 25mm f1.4 at 8 foot focus
20 foot candles, 16 fps
f2.8, -1/3, -2/3, f4

LQR 1:10 75 degrees 45 minuets
15 x then 6x every 60 seconds
old bleach and clear 7 minuets each
re-exose 2 minuets
SD=FD saved 10 min. 74 degrees
Fix 5 minuets

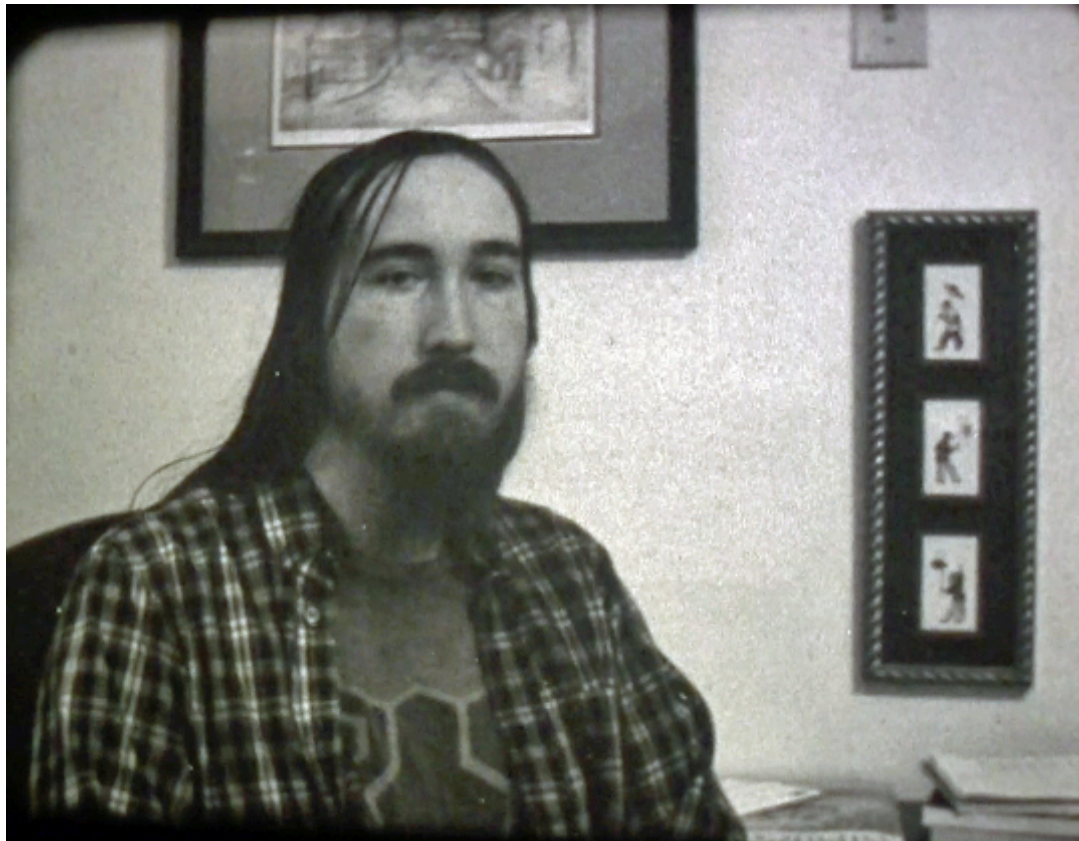
22 16mm R-100 60 min

<https://youtu.be/01sAbbTBdZk>

Jan 30, 2020. Foma R-100 2R 16mm film was developed longer with more second exposure and fresh second developer, longer, to combat the leader becoming too light. The film was toned 2 minuets in straight toner. That effect is to be much less to use it. I like it. Now that the film is becoming lighter and thinner it can be toned to darken it again. 800 ASA in Tungsten light. 800T.

			
f 4	-1/3	-2/3	f 5.6

This photo is the f4 Toned exposure that was enhanced in Photoshop Elements 9 several times. Toned less it would look like this or even better.



I was tired and dumped out the developer by mistake and then realized it could be a good thing. Fresh SD may increase the final black density.

Foma 16mm R-100 60 min
Jan. 21, 2020
Bolex H16 Leader
Som Berthiot 25mm f1.4 lens
8 foot focus, 16 fps, 20 foot candles
f 4, -1/3, -2/3, f 5.6, toned, f 4 toned

Developed in LQR 1:10
60 minuets at 74 degrees, then dumped out
15x to start, then, 6x every 60 seconds
Bleach and Clear were used so 7 min each
Re-Exposure was 3 minuets
SD was fresh LQR 1:10 for 12 minuets
Fix 5 min

Face Book Comments of mine

Everything that happens to a film in developing changes it. A longer time in the developer lightens reversal film. More agitation increases contrast. Different chemicals make grain more pronounced. High temperature thins leader. Every little thing makes the pictures different. So, one film can have a lot of different looks. Depending on where and how film is developed determines how it will look. DIY gives you control.

800T Foma is not a new film, rather how I develop it. It could also be 200, or 400.

FOMA R-100 is developed up to 800. It could be 200, or 400, daylight makes a difference. Tungsten 800 would be different from Daylight 800.

One third of a stop shows clearly in reversal film.

I feel like Thomas Edison must have discovering tungsten filaments.

13mm moves the camera back from the subject more and that will make sound recording more quiet. I should make a blimp for the camera.

Foma R-100 in 16mm 2R has given me 800 ASA at least. So, now I can use this film indoors with normal room lighting, with all the lights on. That is about 20 foot candles on my Sekonic light meter, which is not set on 0 when covered but just a little above 0 so it registers low light. f4 came out nicely and the leader was just a little lighter. I hope to hand develop another test and achieve f5.6 at 1600 ASA.

23-4 16mm film developing tester

<https://youtu.be/2xASbuMGynk>



Oct. 30, 2019. 16mm film is developed in short pieces before 100 feet or 50 feet are developed. One or more tests are made to find out what works best. All one exposure could be made or several that are bracketed. Blank single frames should be put in between exposures to set them apart from each other. If the film looks good in your hands it will project nicely. There have to be some clear areas, leader should be dark, a range of grays on black and white film should show up. Two 3' tests could be spliced into a 6' loop and then that could be projected. If it were Double 8mm, slit, and joined together, it would be possible to project it.

A Jobo small tank is what I normally use to develop tests up to 6 feet in length, not this one. Most people don't have a Jobo and they cost much more than one of these metal ones.

These two videos were done over because I could not find the mov of the original. It was too long anyway.

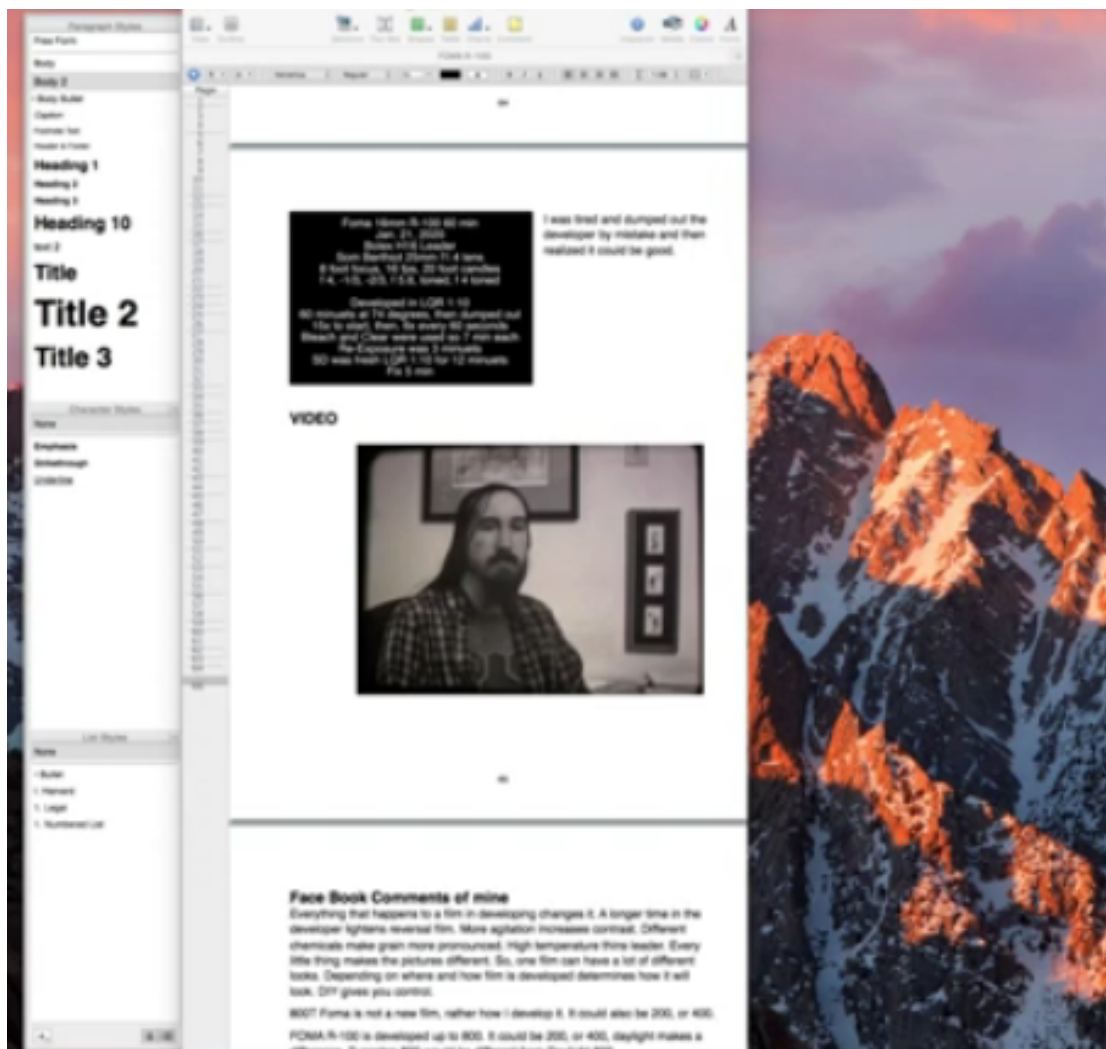
25 Pages Tutorial of Foma Report

<https://youtu.be/aHBzVxQ9U-Q> Pages Tutorial of Foma Report.mov

January 29, 2020. Apple Pages features are shown in a report made about developing FOMA movie film. This was a Apple Quick Time Player Screen Recording off of part of an iMAC large screen computer display.

The You Tube version is full sized and in great detail.

iWORK must be installed on an Apple computer for videos to play in the Pages word processor.



How to determine ASAs

In order to repeat any tests I have to know what the ASAs were.



This image shows the light level to be what I call 20+ and it is about as good as I could get indoors. Usually it was lower, like 20 or 20- The backgrounds were about 15.

The B8 has a shutter speed of 1/35. That would be halfway to the first dot to the right of the 30. The dot is 40, the orange line is 50.

80 ASA is set as Tungsten light predominates indoors. There are a couple daylight bulbs but ...

f1.4 is the lowest setting I had on the Switar 12.5mm lens.

If 100 ASA then f1.4 is correct. Choose a longer developing time.

Page 35 in here shows development times. 80 degrees lightened the leader. Use 78 degrees at most 20 minuets. Page 65 shows 16mm film of James at f1.4 and 25 minuets as too light at 78 degrees.

Use f1.4 and find one time and temperature for it. I guess it would be 100 ASA.



26 January 31, 2020

<https://youtu.be/tmhJrr37VtA>

Foma R-100 in B8 with the new lens 13mm Switar f 0.9

The idea is to shoot film with the new lens opened all the way indoors at night, or before the sun comes up. I just did that. Melita was getting ready to go to work. The idea is to develop this film like I did the Christmas and sweeper films to see how the lens changed the images. Page 42, 12-23-2019 LQR 1:10 timed to 20 minuets at 78 degrees Fahrenheit. 15x and 3x agitation was used. The red safe light was used. Page 51, 12-24/25-2019 LQR 1:10 developed 20 minuets at 78 degrees F. HA, the same method was used only presoaking was longer at 5 minuets. Page 56, 01-08-2020 LQR 1:10 timed longer at 22 minuets at 78 degrees F. It is of Melita opening a package. Presoaking was also 5 minuets. Those films were all shot in the dining room a lot, which is darker than the Kitchen or the Living Room. Christmas movies were toned too dark. Try developing one roll the same way only using the new lens opened all the way.



A new roll of 8mm Foma was started this morning indoors before the sun came up. The Bolex B8 camera was used. The new 13mm Switar f 0.9 lens was wide open. Only normal house lights. Developed the same way as the Christmas movies were to see how the increased exposure effects development. LQR 1:10 at 78 degrees 21

minuets pre-soaked 5 minuets. And it worked great! I had to work today, Saturday, so the side 2 was shot. I exposed film in every room of the house

without lights on with only diffuse daylight, Some lights were turned on and off during an exposure. 0.9 was used in all shots. Some near windows are overexposed. It was dim and overcast outside. There are a lot of good exposures on this roll. Many exposures are out of focus. That was because I thought the focus ring was in inches; it is not, instead it is in meters. When I focused at 2 feet that was .6 m. I put the lens onto the H8 Deluxe and measured to a magazine. It is correct. And it does focus all the way at the minimum distance to a curtain lit by outside light, but it was not measured.

This video is a screen capture that is tiny in size. The original is 2K HD but has black sides because of the 4:3 projected image.

To make a DVD version I would have to go to the AVCHD hard drive and export the file in 1080P and trim off the ends. OK, done. 541MB. Upload to YouTube, Unlisted.

27 Foma 0.9 corrected and narrated

<https://youtu.be/FiPWKE7XHnM>

This is the link to the narrated video of the Foma film I shot with the B8 all around the house. It was developed in LQR at 78 for 20 minuets.



Development time was 21 minuets, not 20 as narrated. I was going to use 20 but pushed ahead to 21 instead, just in case, to get more in the darks. Even so, 20 to 20+ foot candles on skin still isn't at f1.5, so longer development is called for. And even more to use a f1.8 or f1.9 lens in a dark room with a lot of wood in it.

200 ASA D, or 180 T, and wide open in dark rooms. That may work.

27b_Feb_13_2020

<https://youtu.be/AVY0zyseeX8>

1080P

Note: an underscore in the uploaded file name will not appear in the title, it will be a blank. Same with periods. The title, however, made with underscores will be saved in a downloaded mp4.

Telemeters

Feb 3, 2020 The P1 camera may have a meter scale to focus with. I have a 10 foot meter and feet tape measure.

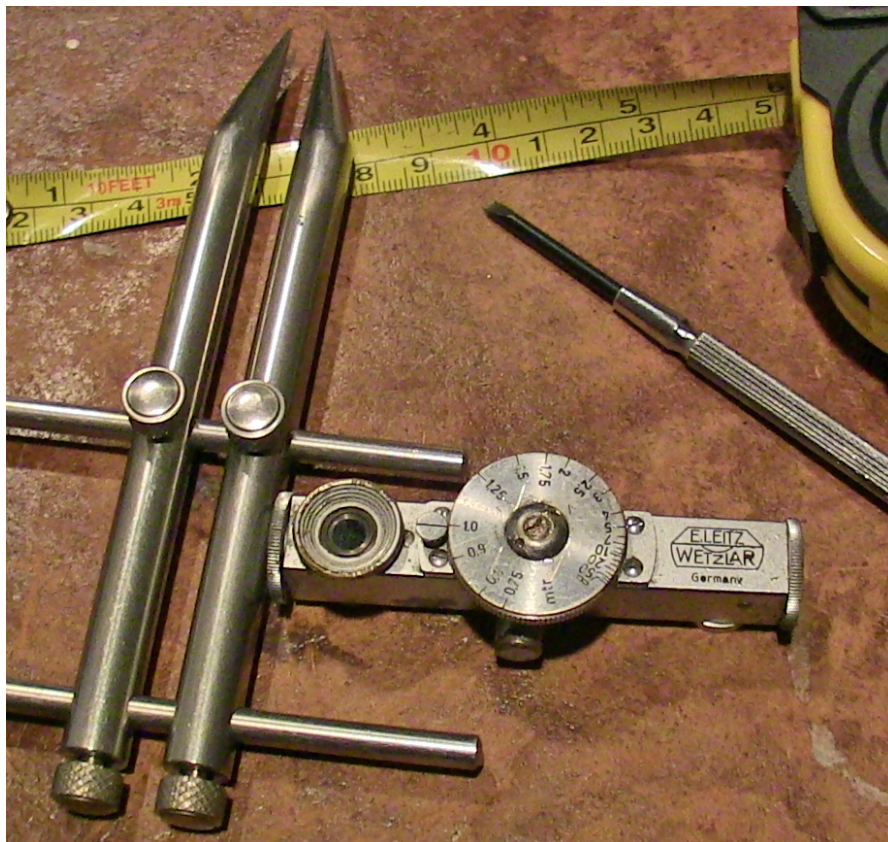
The P1 is hard to see in.

A new focus finder was bought. It is in feet. I will have to use a tape closer than 4 feet as the finder only starts at 4 feet or 1.22 m. The lens focuses a lot closer.

I tried to adjust an old other finder but it slips inside and won't keep a setting. The outer ring tightens the dial and against the screw so the dial and the screw turn, however something inside slips at the closest setting.

Meters	1	2	3	4	5	6	7	8	9	10
Feet	3.2808	6.5617	9.8425	13.1234	16.4042	19.685	22.9659	26.2467	29.5276	32.8084

11	12	13	14	15	16	17	18	19	20
36.0892	39.3701	42.6509	45.9318	49.2126	52.4934	55.7743	59.0551	62.336	65.6168



I tried again and got it sort of working I think. 39 3/8 inches is a Meter.

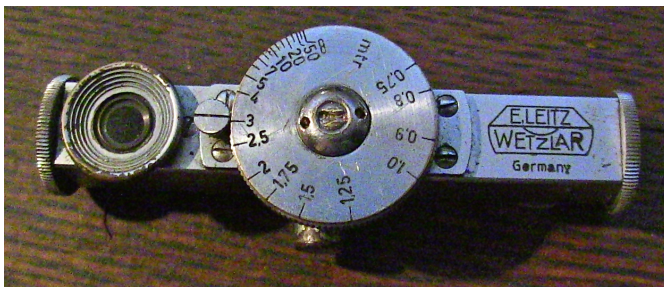
NOT. It slips. What a colossal waste of time.



I bought this Telemeter because it is supposedly working as it should. It could be returned, too, if it is not working correctly. There are a couple screws missing.

I like these things and like working with them, if only they worked properly.

Before I forget how I got the E.Leitz to work, here is how. The flat screw head in the center of the circle turns the mirrors. The part around the center has two holes in it and screws down on the threaded center shaft to hold it in place and secure the dial. The dial has an incomplete groove in the back that sets limits by a short piece that sticks up from the body. A quarter turn of the two holes loosens the lock and a flat screwdriver makes the slotted center screw focus closer left or farther right. The lock totally comes off and a washer is under it. The center screw shaft turns and turns always back to a click and that is vertical. That is pretty close to correct. Something shifts in there, inside the body with the mirrors, even after tightening it up. First on one end, close or far, then after another adjustment, the other. It jumps in the view then focuses differently...



Just use the Minolta instead.

The Leitz keeps slipping.

Tech Sheet

R-100 Process scheme

	<i>Process steps</i>	<i>Time (minutes)</i>	<i>Temperature (°C)</i>
1	First development FOMADON LQR (1+10)	9 – 10*	20 ± 0,5
2	Washing (running water)	10	20 ± 3
3	Bleaching (FB-2)	5	20 ± 0,5
4	Washing (running water)	5	20 ± 3
5	Cleaning bath	3	
6	Washing (running water)	5	20 ± 3
7	Second exposure (or reversal bath)	5	
8	Washing (running water – after the reversal bath only)	10	20 ± 3
9	Second development FOMADON LQR (1+10)	9	20 ± 0,5
10	Washing (running water)	10	20 ± 3
11	Fixing (FU-5)	9	20 ± 3
12	Washing (running water)	30	20 ± 3
	Total processing time (excluding drying)	100–102 (110–112) **	

This is what I used on Rolls 2 and 3, but now use longer time and higher temp.

My conclusions are to develop 25 minuets next time





28a FOMA R-100 B8VS Feb 4 M

<https://youtu.be/LzP01abnWSA>

M for Meters

Exterior bracket test, Heavily overcast and damp, 2:50 pm, Left off of the back porch, garage lights, 13mm 0.9 Switar, I focused on the stained glass frame on the porch, 30 feet or 10 Meters, the Minolta SRT220 was used to determine the focus distance, The focus has 3 lines on the lens, I put the the left one on the 5 and the far right one on the inner line next to the line under the 40 M mark. The Sekonic incident light meter was used, 200 ASA, 160-1 block on the low scale, 24 fps, 1/50, $f4+1/3$, $f4$, $f4-1/3$, $f4-2/3$, blank frames were put inbetween brackets. 100 ASA would be $f4+2/3$ and is what shouldabeen.

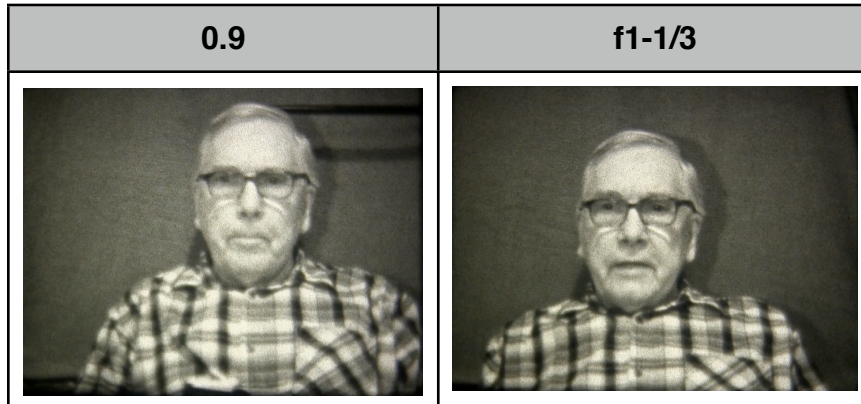
I wanted to see how indoor and outdoor exposures react to 25 min. push processing. They look the same, the darker head shots, not the first one.

$f5.6 +1/3$	$f4 -1/3$	$f4$	$f4 +1/3$
			

This exterior bracket test was shot first, then two interior exposure tests, then more talking heads.

28b

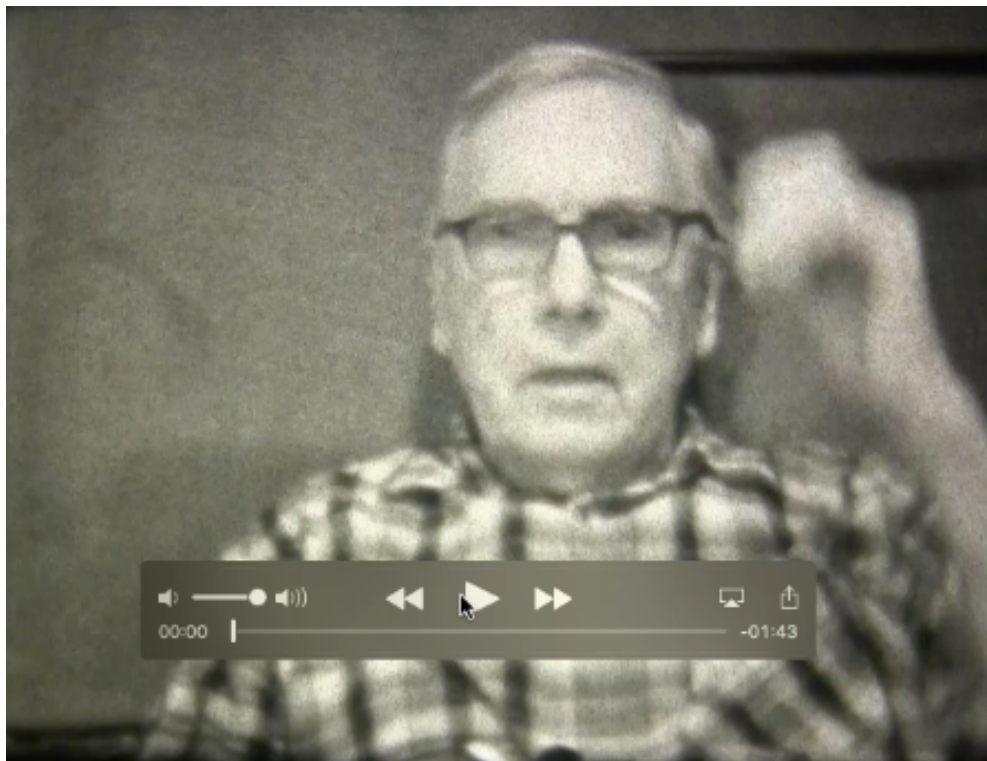
<https://youtu.be/5-JgBjnsC7U>



Interior bracket test, I exposed shot number one brighter, just to see what it would look like. 20+ light 24fps f 0.9 80 ASA 1/50 6 feet focus was less than 2M the dot was between the two right bars.

29 Side 1

<https://youtu.be/itD1tnuJZqU>



1. Me 20+ fc 6' f0.9 100 ASA
2. 20+ fc f 1 -1/3 or f 1.4+2/3 80 ASA
4. f 1 64 ASA



30 Side 2

<https://youtu.be/TvClxmvi2w4>



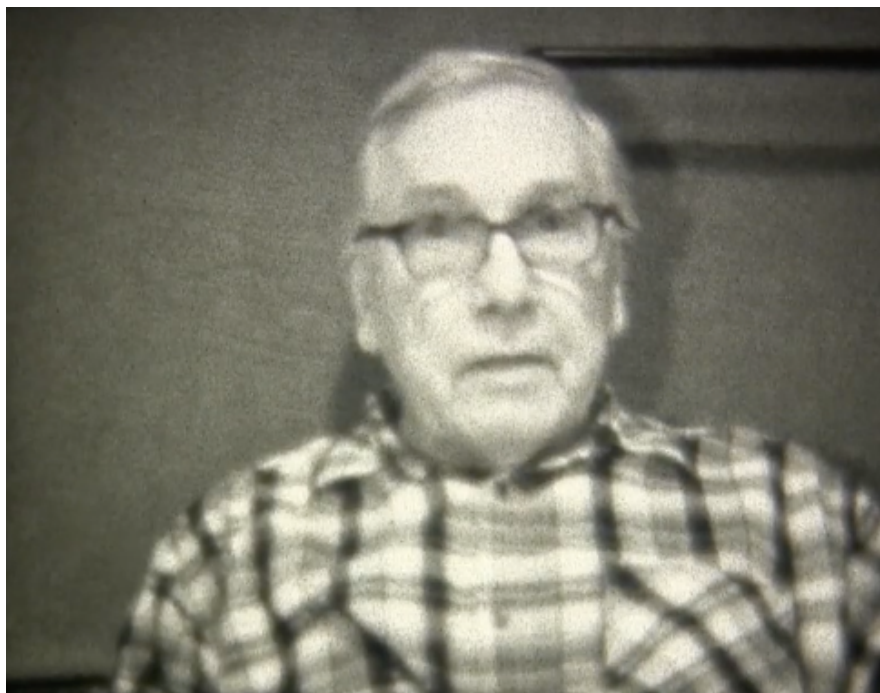
Distance was 4 feet or 1.21 M. The left line was on the 1. Light was 15 foot candles. f 1 was used in all shots. 100 ASA 1/50 is spot on f 1 A blue daylight LED bulb was pointing at me. Ceiling lights were Tungsten but dimmer.



Development was in LQR 1:10 up to 1250 ml 25 minuets at 78 degrees F
15x6x@60sec B5 C5 SD=FD 74F 10 min Fix 5

31 Introduction

<https://youtu.be/623DAX7Em7w>



bla bla bla

32_Foma_B8_10&25_narrow_and_wide

<https://youtu.be/52sA2DQ4Zr4>



Feb 09. One strip of film was taken off and one side was shot outside and one side was shot inside. The film was 3 feet long, or from my extended arm to my chest. That piece was all exposed the same way for both shots that ran continuously to the end which was when the camera shut off.

The film was folded in half and cut. Each piece was loaded onto a Jobo 110 spiral. One

was developed 10 min at 68 degrees and the other was developed 25 min at 78 degrees. Both were bleached, cleared, re-exposed, developed again, fixed and washed the same together.

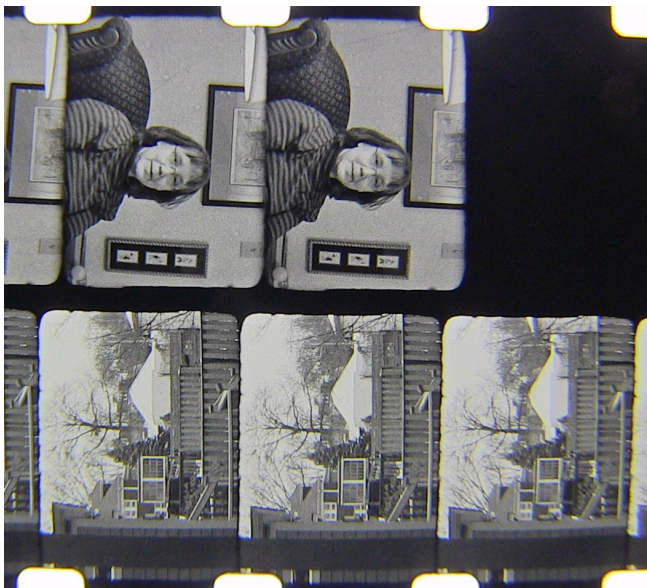
LQR was used. 18ml of it was filled up to 180ml with filtered water. A fresh batch was mixed for each development. Both were saved, combined, and reused as the second developer. That was at 74 degrees and 10 minutes.

The 10 minute piece is darker. Indoor images especially look dark, darker than normal room light. The exterior is hard to judge as it was a dark day, but that one is darker than the other one.

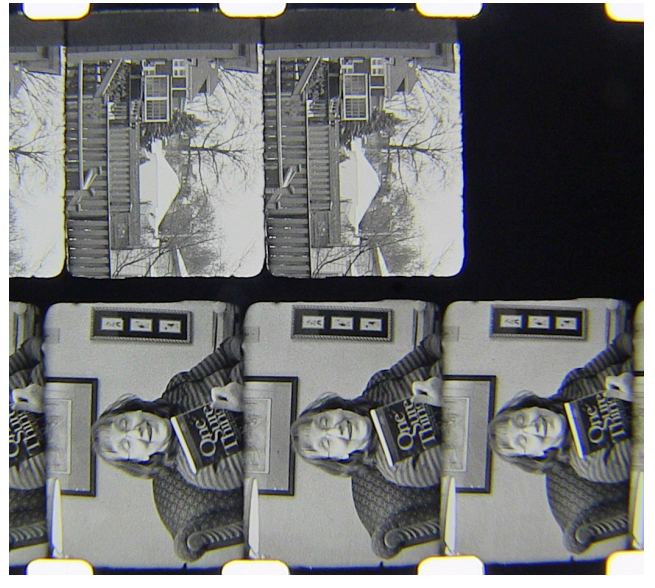
The 25 minute piece is lighter. Indoor images look correct, pretty normal looking. The exterior is lighter and should project nicely.

I wanted to see how the dev times and temps, normal and pushed, looked.

10 min



25 min



The leader looks lighter in these photos of the film on the 25 minuet piece. Exposure was strange but the same for both developments. Just for the record, light was 320-1 block on the low scale, mostly because of a lot of snow was on the ground and roofs, and that lightened things up, however it was late, 4:30pm and heavily overcast.

The B8 camera was used. Focus was on infinity outside and 6 feet or 2 meters indoors on Melita, but I was further away than that. So, the book is out of focus. The speed dial was set to inbetween 24 fps and 16 fps. I had timed the camera and the larger 16mm one to see how long they ran. Somehow the dial was left inbetween and never reset correctly. No matter. I just used the light meter inbetween 1/50 and 1/35.

The way I judge is to project the movie film on a screen. Videos are made off the movie screen. Many are on my channel. I also take photos on a light table. They can end up on FaceBook. A scene is bracketed, using 1/3 stops, which can be clearly seen to change between each shot.

Contrast is lower in darker images and I try to lighten them by developing longer. Indoors, a yellow or off white wall looks gray and dull compared to real life when developed 10 minuets, however the 25 minuets one looks correct. The darks are judged by looking at a light bulb through the leader, which is black. I load and unload in the dark to get black leader and eliminate flashing the ends. At 80 degrees F and 21 minuets the leader became too light and thin for me. Ones like that are Selenium toned to darken them back down. Just a little because the lights also become darker, just not as fast. So, I lower the temperature and then extend the time. That lightens the wall and darkens the leader. What I wanted to find out was how this film, Foma R-100, behaves, developed as taught and my way, shot under identical conditions.

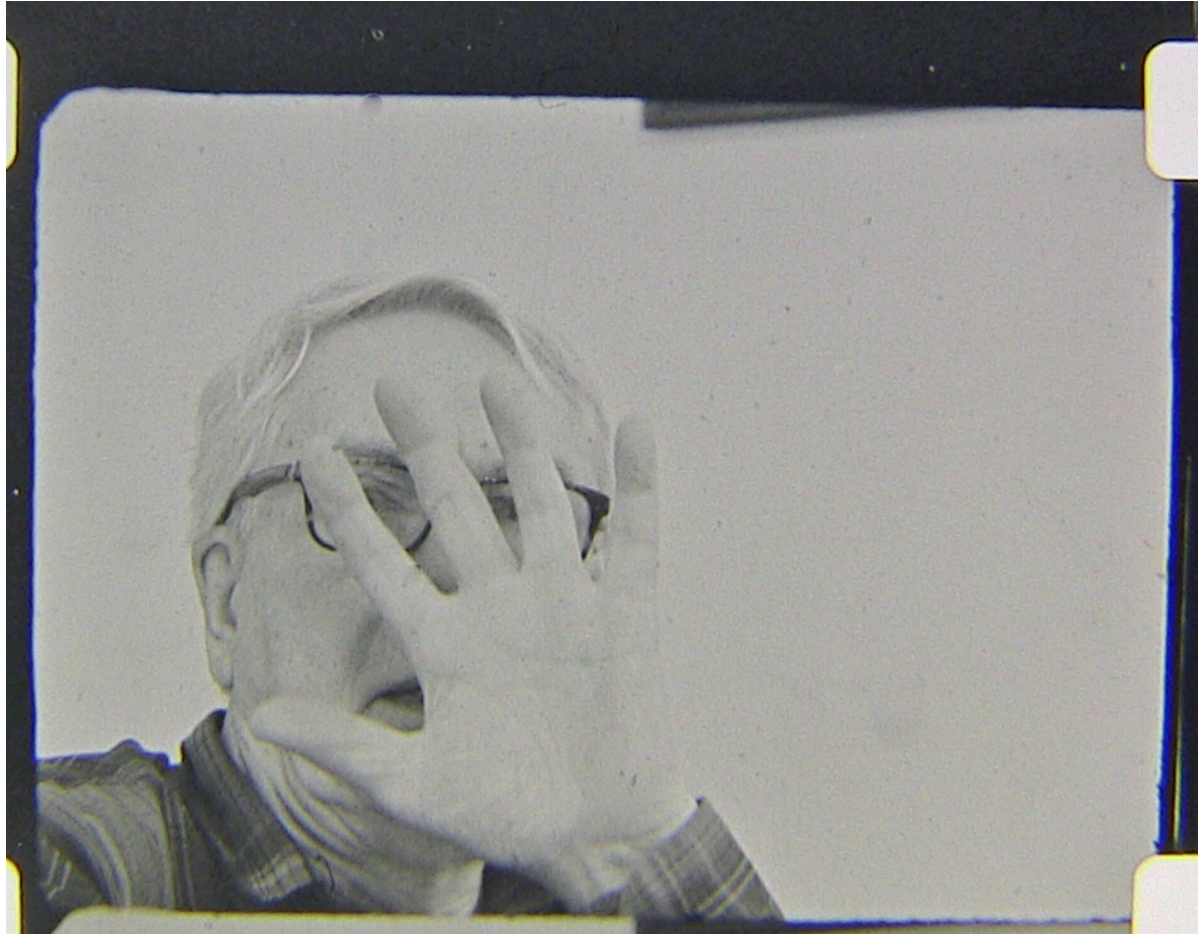
This morning I wrote a page about the sunny 16 rule applied to what I discovered. It applies if I use 24 fps and 1/100 at f16 on a not too bright sunny day with almost cloudy bright shadows, but still hard. Not as bright as it gets. I think the film is adjusted to include bright sun on sand and snow.

These photos look like the difference is 1/3 of a stop between the two. It may be more because the camera adjusts exposures. I'll have to see when it they are projected.

33 Foma R-100 16mm Stand f5 6 4

<https://youtu.be/L7EoFvfZY0s>

Feb 12 It is time to try Foma 16mm at f5.6 in 20 foot candles indoors.

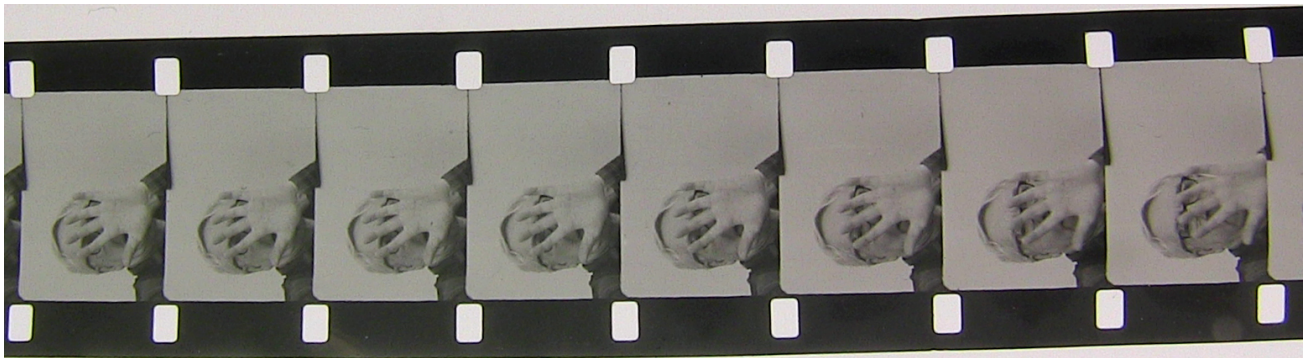


the green chair f4 H16 Deluxe at 24 frames a sec.

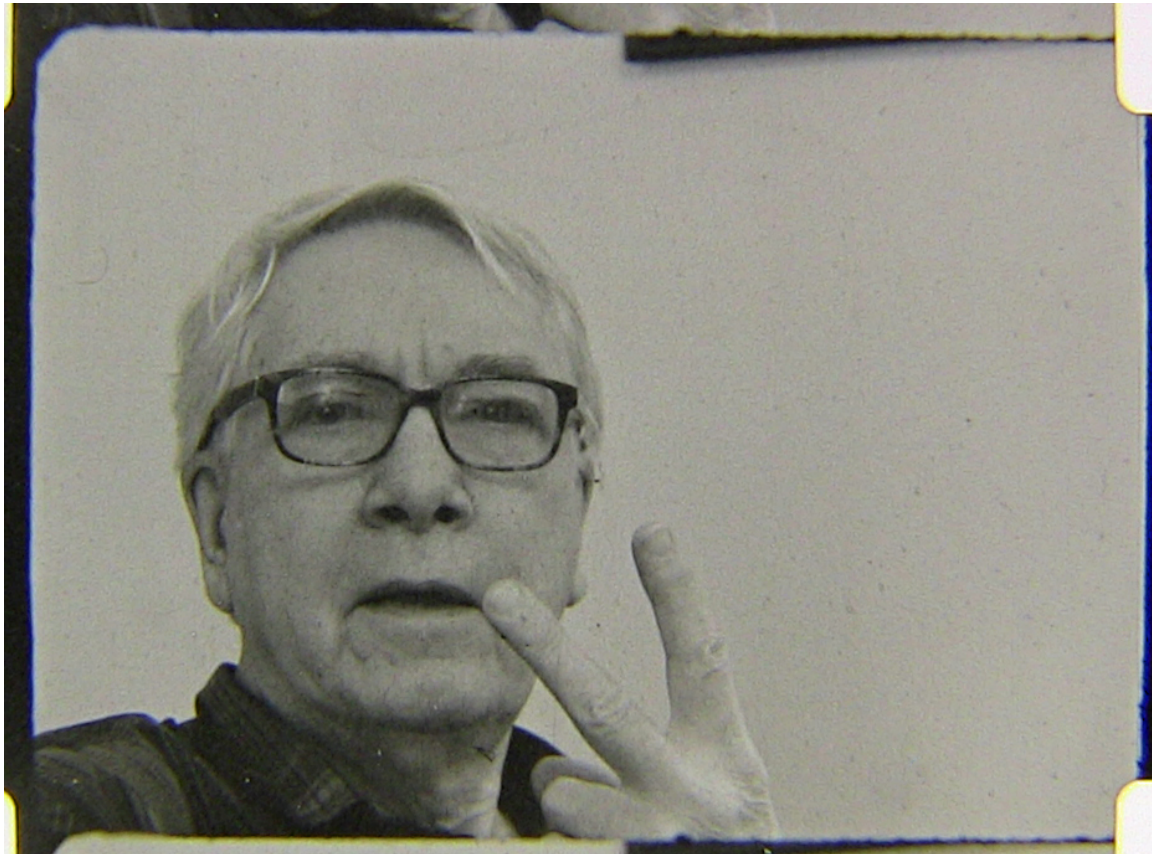
The light was 10 foot-candles or less daylight in through the front window and 20+ T with the lights turned on. My light meter is NOT zeroed out but rides a little above that so I can measure low light more easily.

Pictures are seen on the film strip when holding it in your hand, unlike normally exposed and developed Foma that looks all black. Normal Foma hardly shows images without a strong light behind the film. This pushed film shows even the toning change from a distance without anything but reflected light from a wall in the distance behind the film. The leader is light; you can see the toning from a distance and that is why I stopped the toning when it just changed color.

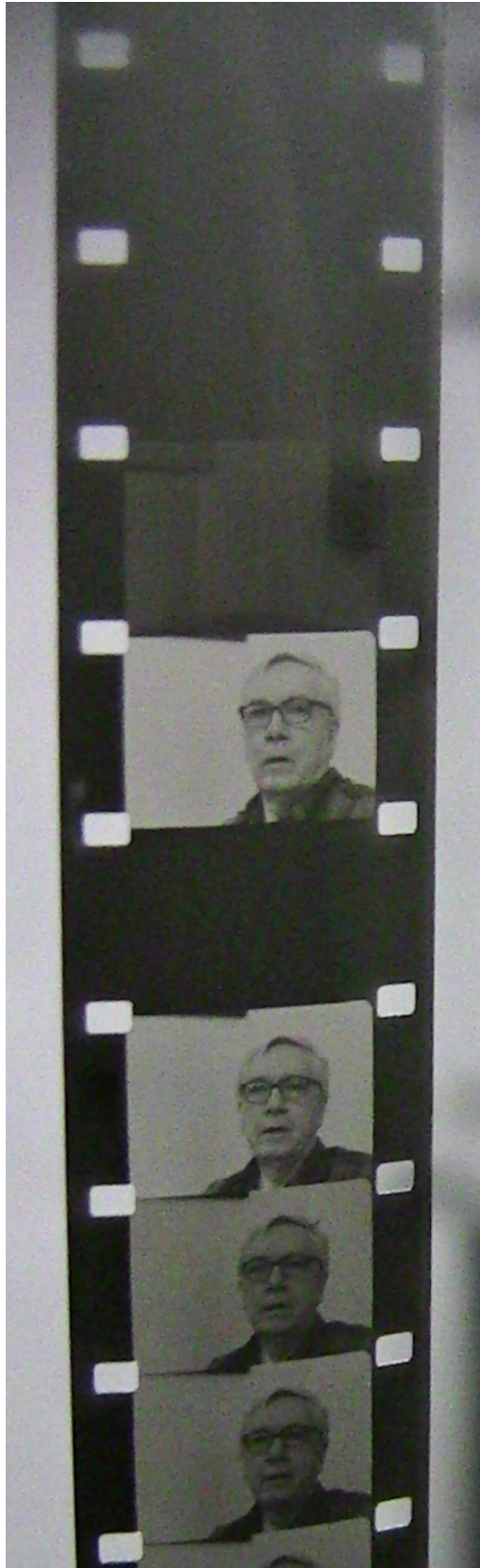
LQR 1:10 at 68 degrees agitated 6x every 15 minuets as long as 1 hour 45 minuets. The FD was used as the SD at 74 degrees 10 minuets.



Selenium toned f4 end of strip done 1&1/2 minuets at 1:10 dilution. Silver is green, Selenium is magenta. It gets much darker if toned longer and stronger.



f5.6+2/3 stop towards f4.



This picture was made from reflected light in the darkroom. Light black leader is on top, the first two frames show here, then the third one down is a single frame exposed without any lights on. I tested the M and P on the camera, P is single frame. f5.6 at 24 fps was the setting and light was 5-10 from the front window. There is a picture, it is the corner above the chair, two pictures on the walls are shown and the top of the chair in the corner.

The brightest one is f5.6 single frame and is brighter than a continuous 24 fps which follows. The first frame was slower so is brighter. Single frame can be even slower if it is set to 8 fps when used. So, 16fps f5.6 would work.

The video camera was on Manual with Exposure set on Manual at -1.25

see p. 69 James in the Green Chair at 60 min



The projected image is very bright even with the wide lens attachment on the projector. Very bright indeed. Nice.

The Selenium toned leader is a little darker than the untuned part.

The projected image was so bright that I had to lower the exposure on the video camera to -1.25

The ends were toned using Selenium and may be seen if the video is advanced one frame at a time. The exposures were f5.6, f5.6+1/3, f5.6+2/3, f4 all at 24 fps. The light was 20+ foot candles. Development was in LQR 1:10 for the time of 1 3/4 hours at 68 degrees F. This film is 2R and was shot in a Bolex H16 Deluxe

with a 190 degree shutter so 1/50. There is a single frame image at the start shot at f5.6 with the speed on 24fps.

Foma 16mm R100 double perf shot in a Bolex H16 Deluxe with a 190 degree shutter at 24fps in 1/3 stops between f5.6 and f4 there were 20 foot candles in the room

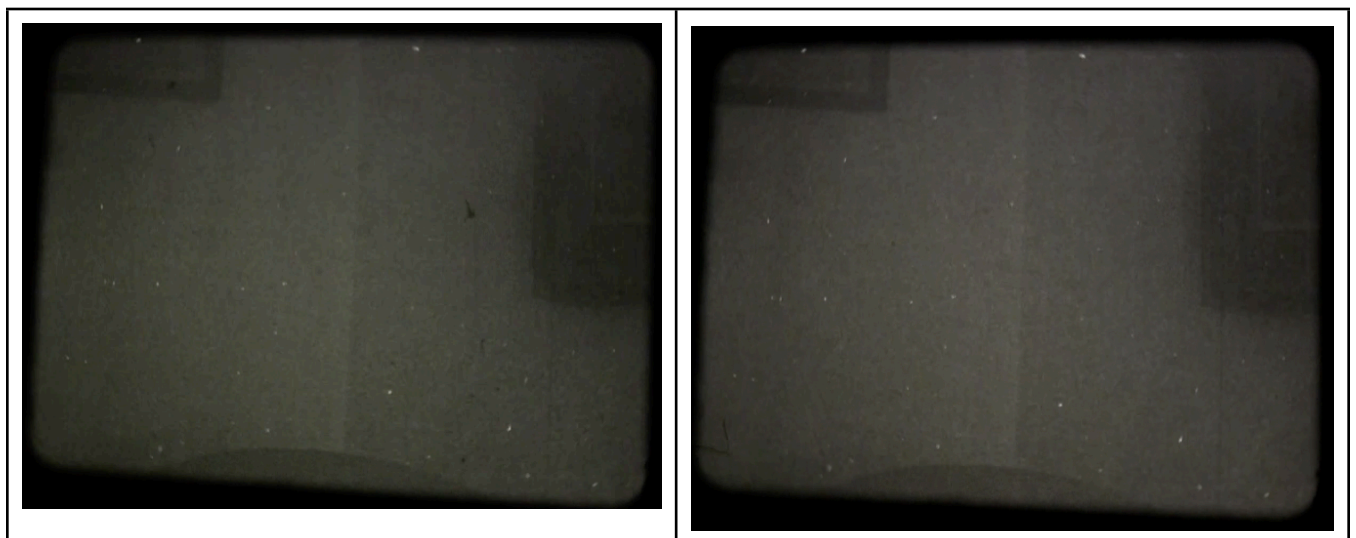
This small video, shown above, is on FB.

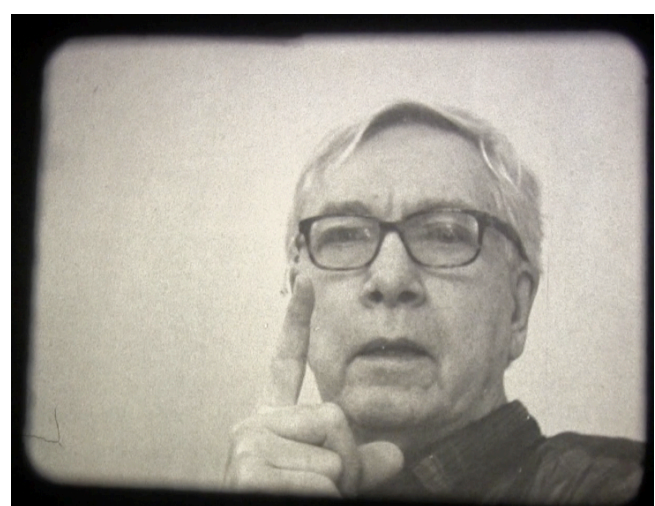
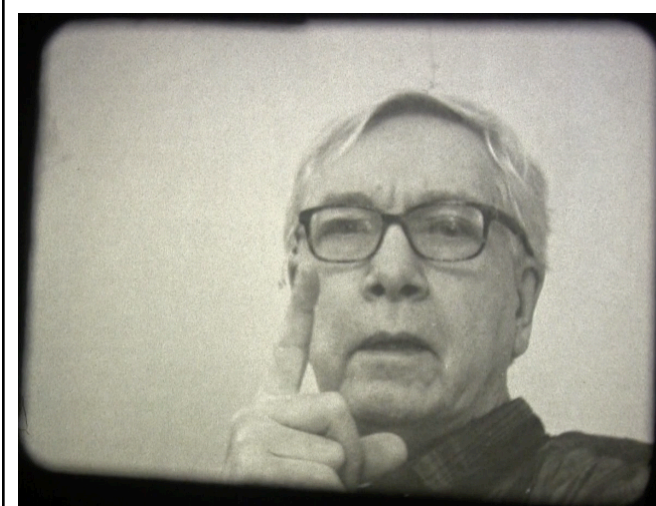
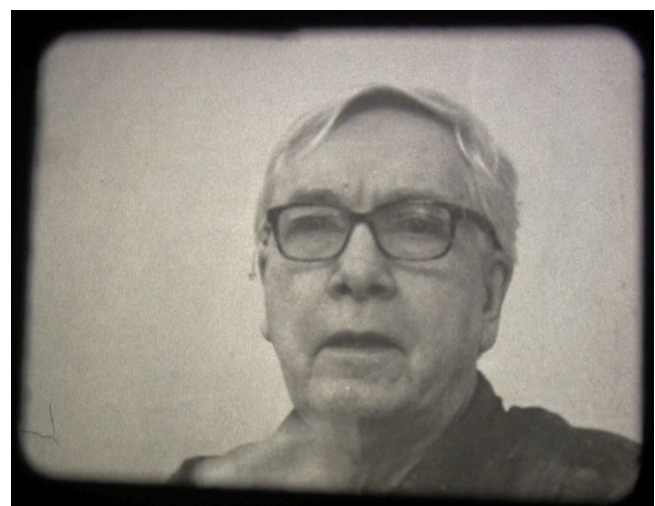
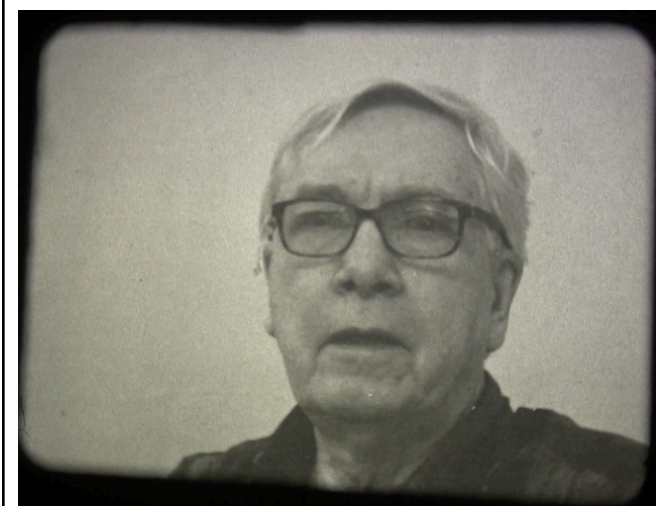
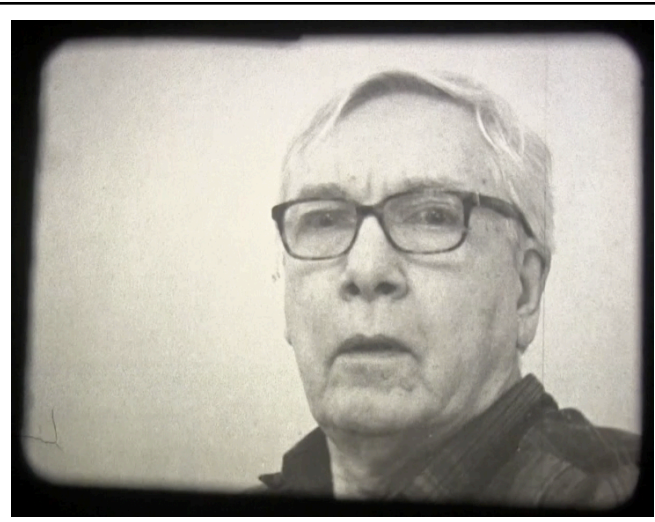
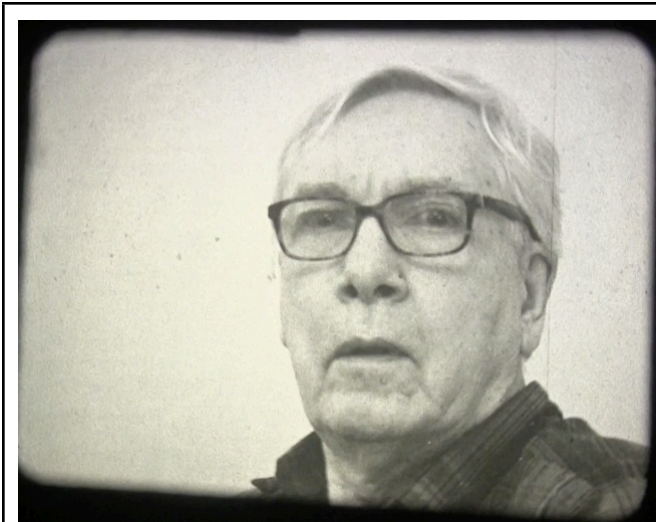
Now I can tailor film exposure and development to match a particular projector and screen so the image is the proper size and brightness.

The exposure that is next to the darkest one is 1600 ASA, not bad for 80T film

Lights were brightened without adding Sodium Thiocyanate to the LQR, but it could be tried on a darker time. Some other, darker films, had to have the wide lens taken off and the projector moved back to get a brighter large image.

Toning was 2 min on the leader and only 1 1/2 min on me. More was done the next day, Friday Feb 14. The film was unlooped and put onto a Jobo reel. It was presoaked 5 minuets. Toner was heated to 68 and the strip was toned 1 1/2 min, enough to make all the pictures pinkish purple. The leader looked blacker where it had been toned before I toned it again. I might tone this film again and again to photograph the changes.








No toning on the left except the ends and 1 1/2 minuets toning on the right.

This dark picture is a f5.6 single frame exposure with the speed set on 24. The shutter speed is unknown, only lower than 1/40. Bolex H16 Deluxe was used. No lights were on. Filtered daylight was about 7 foot candles, maybe 5 actual. Enlarged, I can see the corner of the room, the top of the chair, and the bottom of two pictures. How much more will be shown in exposures made with the lens opened more? I have a 0.9 lens on the B8 to try with this 1600 ASA development method. I'm thinking that if I can see it I can photograph it on Foma R100.

Toning 4 minuets total

Only ends toned	1 1/2 min toned	4 min toned
		
		
		

Only ends toned	1 1/2 min toned	4 min toned
		
		
		

34 TONING 4 MIN

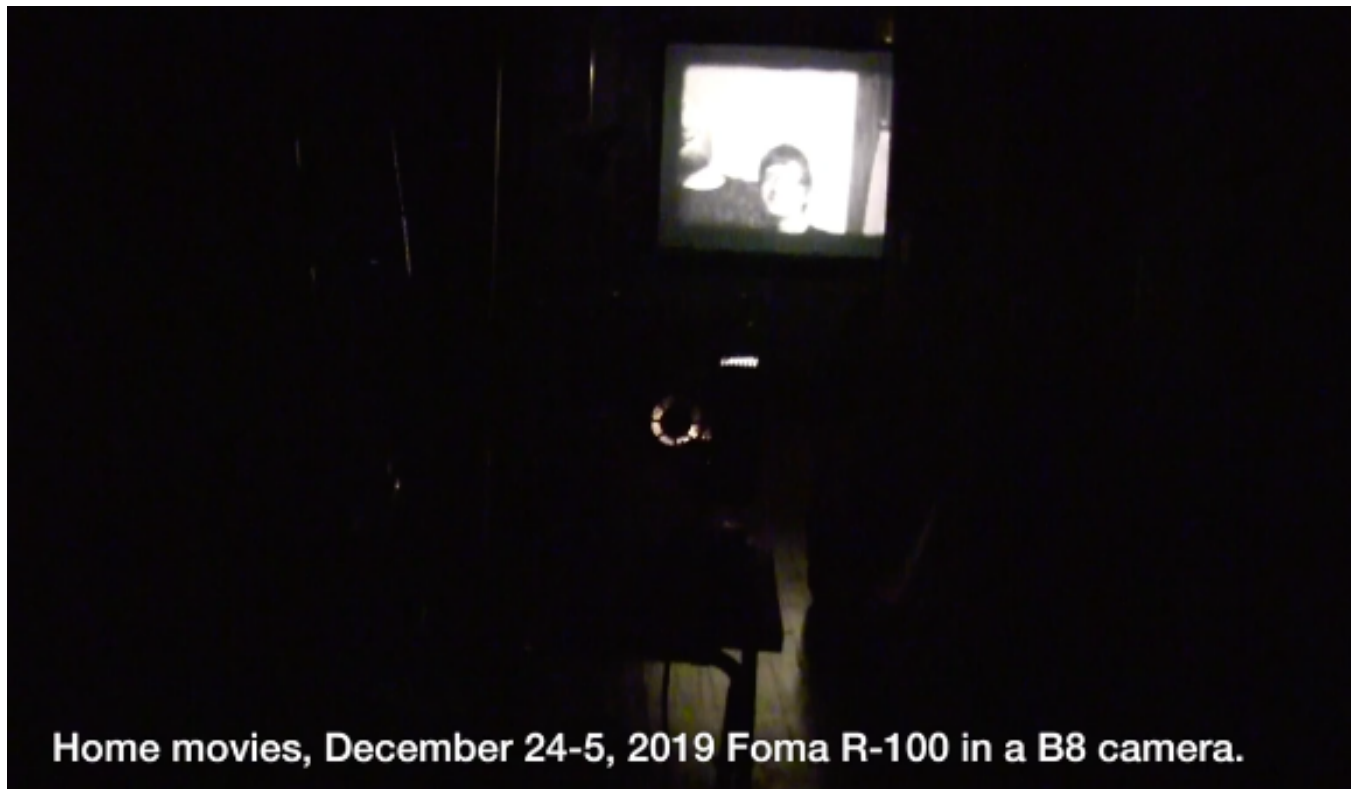
<https://youtu.be/kFEjpMMj2QI>



2/15/20. The details in my palm show up with 4 minuets toning.

35 Revere P-90 Way Back

<https://youtu.be/detA8wAMF58>



Home movies, December 24-5, 2019 Foma R-100 in a B8 camera.

Notes at Church

2-16-20 That view left off the back porch may look dark because it is dark wood, bricks, and trees. It is a dark subject. That is one of the things about using an incident light meter, you need to adjust your exposure according to the subjects. A dark subject will need more exposure, just like if I pointed the camera to the sky then less exposure would be needed. An electric eye camera light meter will change a little or a lot depending on what it is pointed at, all in the same view.

The film may have been designed to work well on very bright days or at snow or on beaches in bright sun on super clean air days. Those conditions may look better if developed the minimum time of 9 minuets, not 10 minuets. Indoors, lights are recommended to be used; it is assumed that lots of light would be used indoors.

However, I tried to use the film indoors with very low light levels. To do that, the development time was extended and the temperature was increased. At 80 degrees and 21 minuets the leader became too light. One lens was used all at f1.5 so everything was about changing the development.

A new lens was bought that is 0.9. That is one and two thirds stops faster.

New experiments were made developing longer and cooler. Exposures were made with less and less light, using smaller and smaller apertures, increasing depth of field. f5.6 at 1600 asa and one hour and forty five minuets development time were done.

Those images were toned to be darker again.

More exposure at the same light level may look different from increasing the development to lighten the image. 25 minuets looks good indoors at f1.5 but too dark at 10 minuets. I have not compared an exposure bracket to a developing bracket. The same shot could be exposed longer and longer now with the 0.9 lens and developed the same 10 minuets. The density may be greater and the washed out look may go away.

The projector is moved into another room. That does two things. The sound is lower. The image is larger. The wide lens is taken off and the image is brighter at the far distance. I can sit on the couch in the room close to the projection screen

and adjust the camera. It sits on a stool in front of the couch and is under the screen almost aligned to the projector.

Manual mode is used. Focus is locked to the screen before the lights go out. White balance is adjustable so I can get the exact color of the projected image. But I usually just leave it on Tungsten bulb. Exposure is manual and starts on 0 then I move it up or down as needed to brighten or darken the recording to match the images projected. I can record exactly the tones that are projected.

If I have guests they sit on the couch and watch the movie in comfort away from the noise and bright light of the projector and I can adjust focus, keep loop, thread movies, turn on my own light that is not seen in the viewing room. They have their own light switch.

The video camera is watched closely next to the projector, wherever it is used, and the variable speed on the projector is adjusted. After the projector has warmed up, I can move the camera away from it and narrate in relative quiet and the speed stays put.

Making films work in low light was achieved by developing longer and cooler. Now I want to try and open the lens more and more to f0.9 and develop short and cool, 10 min at 68F.

Oct 13-14 starts on page 15 was developed 9 1/2 minuets in LQR and was exposed at f1.9 at 1/35?

Page 73-76 is where the interior shots were made at 0.9 all over the house. LQR 21 min at 78 F 0.9 16 fps

Pages 91 and 99 show the longest development and the highest ASAs

I can run around the house and make movies with only the normal room lights on at night. Daytime, too, however it depends on how bright it is outside and what time of day it is. Maybe the Weston meter could read lower off a gray card than the Sekonic can using incident light. I can also set up a subject and film talking heads with whatever depth of field I would want.

On a bright sunny day I should be able to use the shutter closed some and develop 9 minuets, then indoors under normal house lights opening the lens up to 0.9

36 Foma Bright


<https://youtu.be/Gu41v8ju3nM>

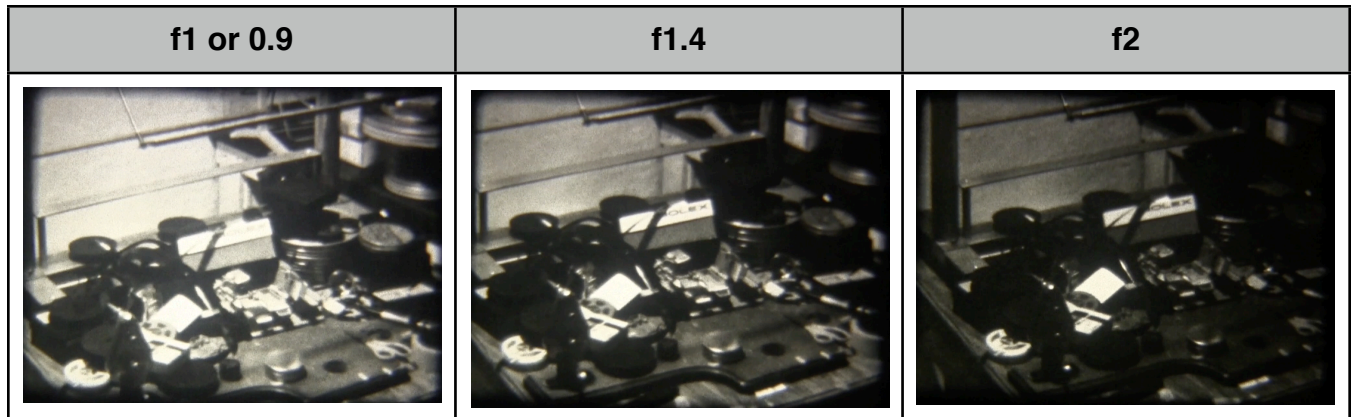


Feb 20 a Foma film was shot, the full roll, indoors. The first half was brackets. The second half was me and James mostly, there was a pan of the room. 16 fps were used not 24. I started at 5.6 or f4 and opened up the lens. I thought that one hour and forty five minuets may have been too long to develop it. 1600 ASA was used. It was all daylight. 20 foot candles and lower.

The time of development could be much longer as it turned out. This picture is a video that plays on an Apple computer in Pages if you double click on the picture. Noise reduction was used on the video that is on YouTube.

I was primarily interested in exposure and secondarily in focus. Existing light was used and wide lens openings were explored, they make focusing difficult. This first shot was done over at 8 feet into the roll because I thought I could set the distance better closer.

f1 or 0.9	f1.4	f2
		

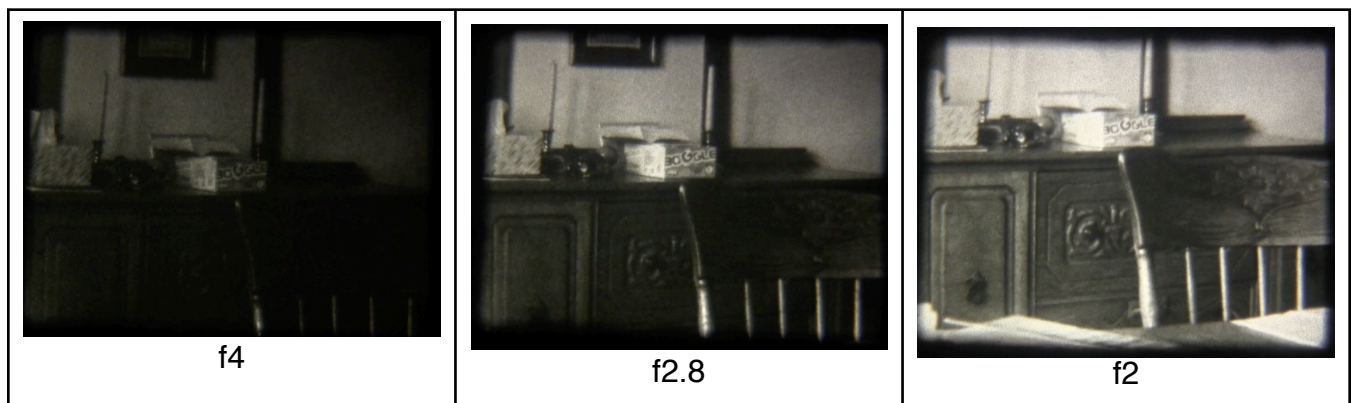


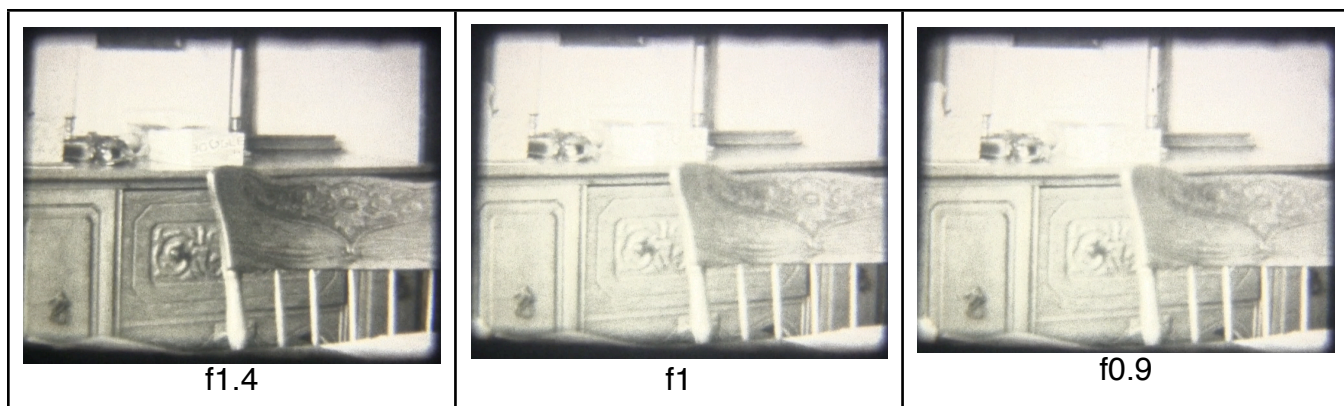
A slightly different focus was used, closer, in the second set. The rough distance to the Bolex box was 6 feet by tape; the top trio had the focus set on the 2, but the distance was 1.8276, closer. The second trio had the focus set closer to the 1.5 with the right line near the 2 on the side of the 1.5

Differences in the focus could be made more clear if frames were photographed on the light table. These images came from a video of projected film. The best frames are blurry.

Part of the problem is that the camera was hand held. A tripod is needed to be used to steady the image.

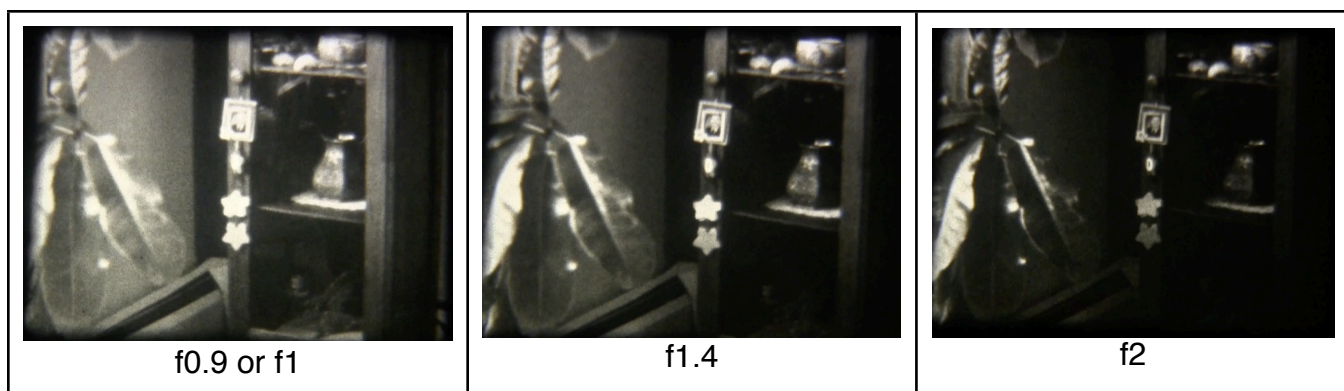
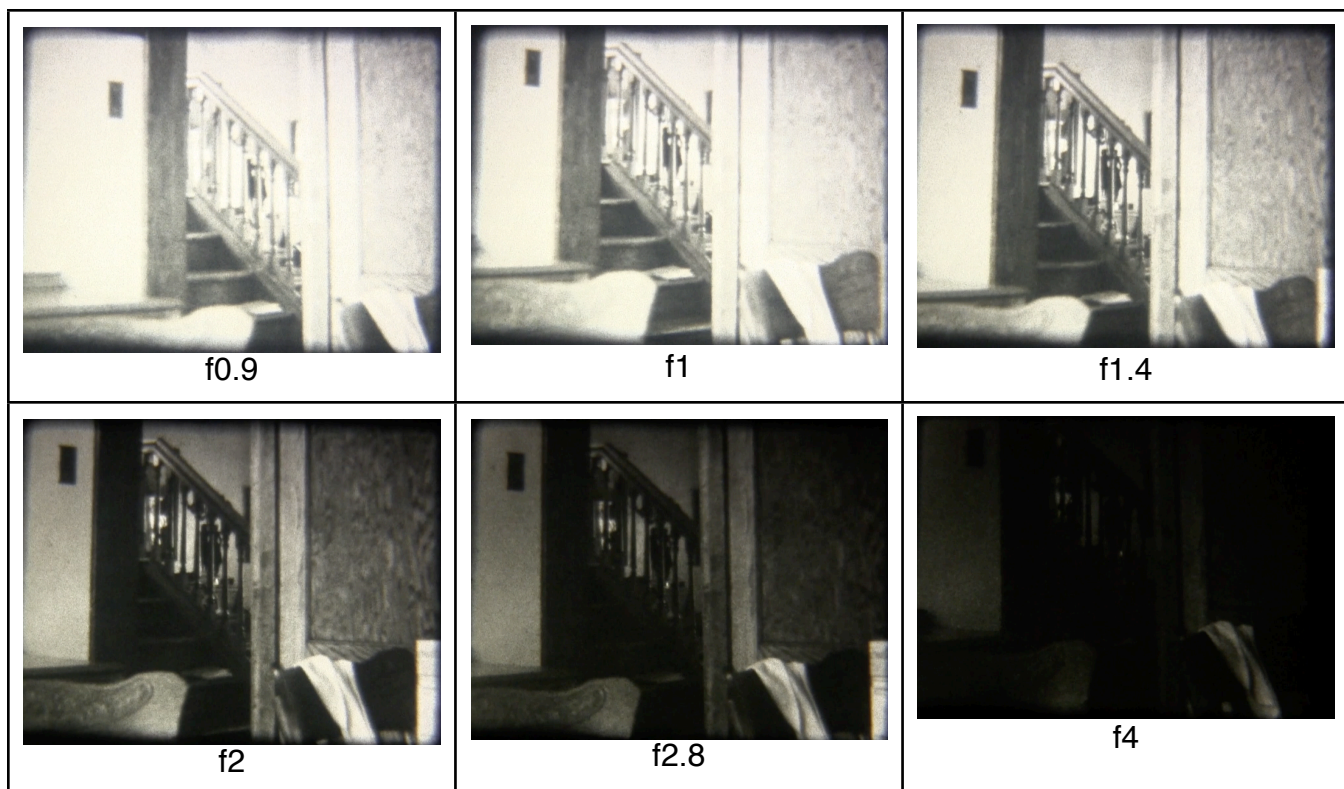
The next exposures were upstairs in the dim daylight indoors.





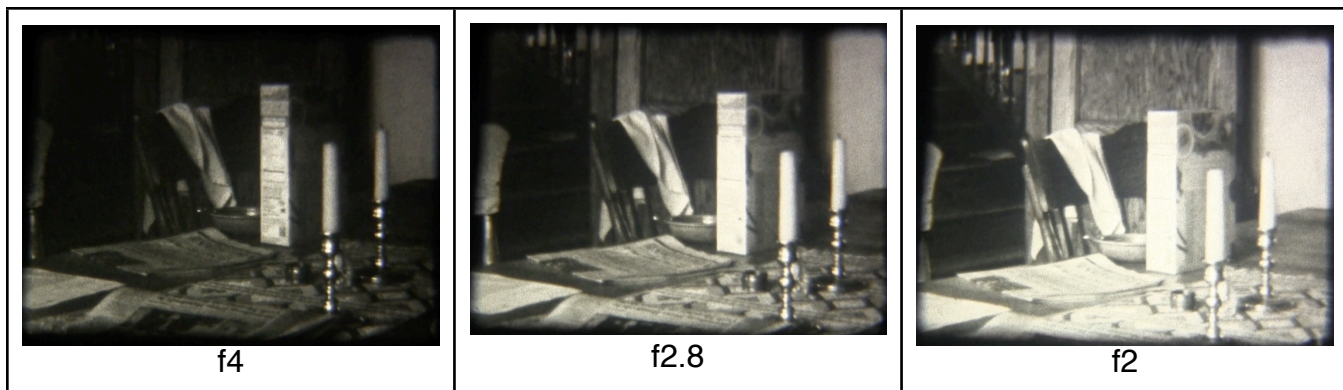
It was 8 feet to the Boggle box, f2.8 is about how it looked. 16 fps was used for all shots except the first set in the darkroom, which was done mistakenly at 20. Light on this scene was 15 foot candles. Shutter speed 1/35. Distance was 2.4368M. Or just over 2 on the lens, the left line was on the 2. One third stop brackets would be useful here, so would a tripod to steady the camera. Most of everything was hand held.

The next bracket was also made from my rocking chair but this time looking out to the foyer through the doorway to the right of the scene shown above. The distance was measured to be 20 feet to the railing of the stairs or 6.092M The 5 on the distance scale was put inbetween the left two lines on the indicator. There were about 20 foot candles out there looking back at the rocking chair in the dining room. No lights were on. Only overcast daylight lit the scene. Again, 6 exposures were made because I did not know what would be had. The first was 0.9 where the last one was made. I only had to reset the focus distance to make the next shots. Then, whole stops were made to f4. My method is to begin with whole stops and follow up with 1/3 stops in less of a spread. The darkest exposure is included because details shown on the projection screen.

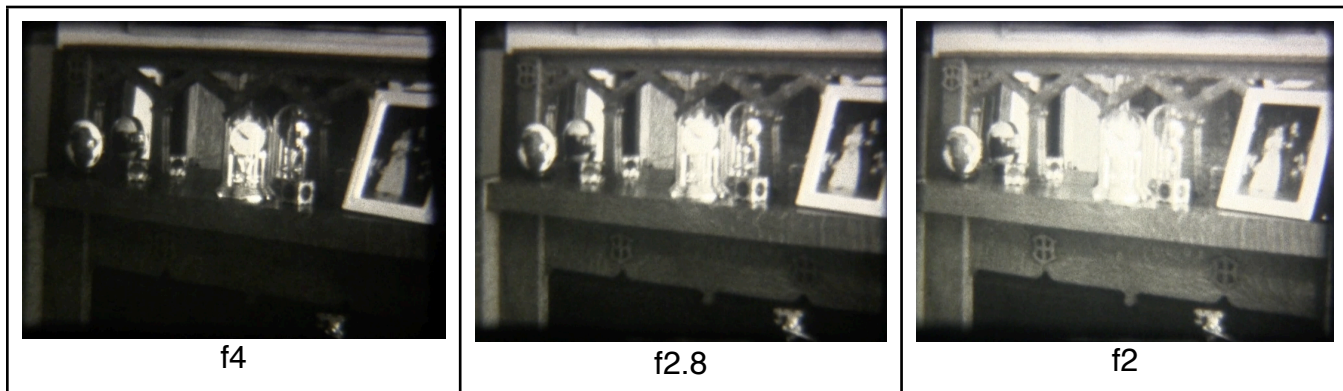
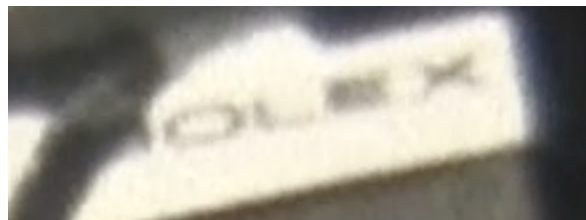
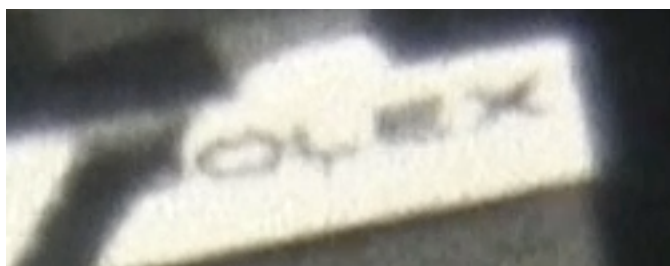


There is very little difference between 0.9 and f1 exposures therefore only one is shown here. That corner is dark naturally. It was 8 feet away. 10 foot candles.

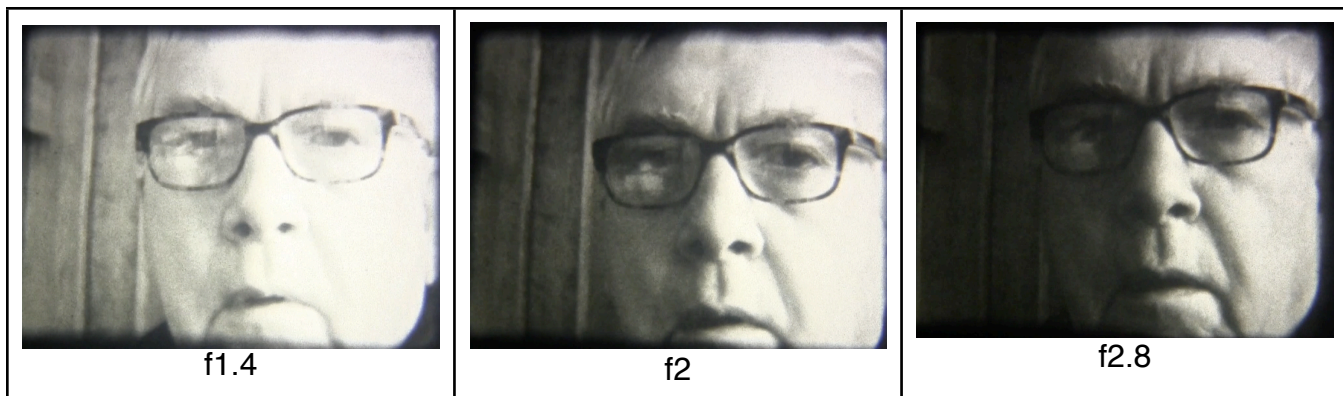
Where James sits at the table was the next shot. Focus was on the napkin which was 8 feet away also. 20 foot candles were measured. Exposures began at f5.6 because I thought 1600 asa would be correct. I was wrong.



Three examples of this area show 20 foot candles and f2 looking pretty good.



The clock was 10 feet away or 3.046m and the right line of three was put on the 5 with the three lines all to the right of the 2. Light was 10+1 block. My back was against the open door to the kitchen. Dark wood becomes brighter while the white clock face burns out. At least in the video.



20-1 block foot candles. Focus was .7 centered. Paint cans on cellar steps at 7.5 foot candles and 8 feet away. The 2 was between the left two lines on the focus



f0.9 The focus was on 5m from the laundry area. Not much light there but that looks like it did. It is pretty soft but hand held with a lot of wiggle. Writing becomes more clear in some video frames. Perhaps a photograph directly off a frame on the light table would show more writing.

Turning around, looking the other way, the far wall to the railing shown in the larger

picture above is 17 feet or 5.1782m. That is where I stood and photographed the laundry area. Brackets began on f5.6, f4, f2.8, f2, f1.4, f1, f0.9 but not all of those are shown here. Added shots were made of different frame ups at the same exposure without any added black inbetween shots. I screen captured 15 frames. They start on the 4th one.

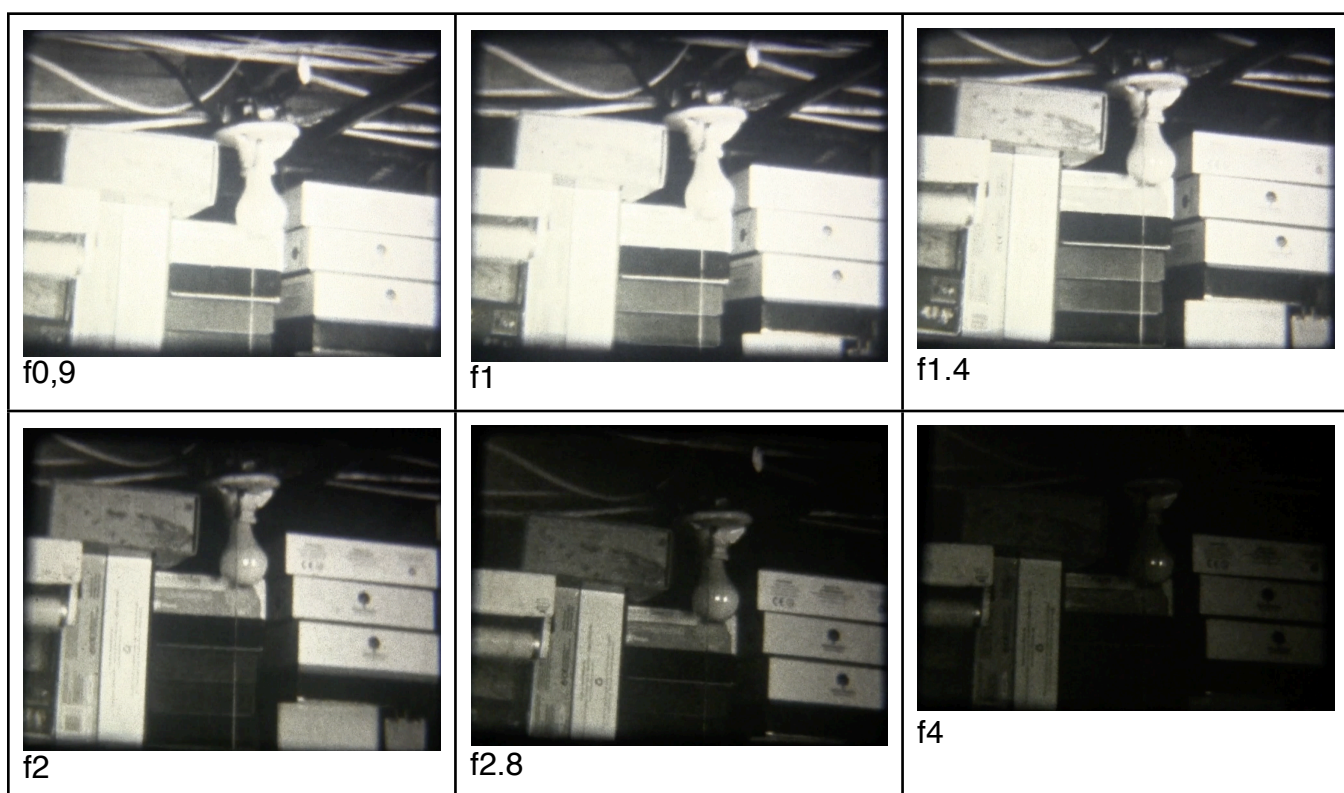


Light was measured at the far wall to be 20 and at the sink.

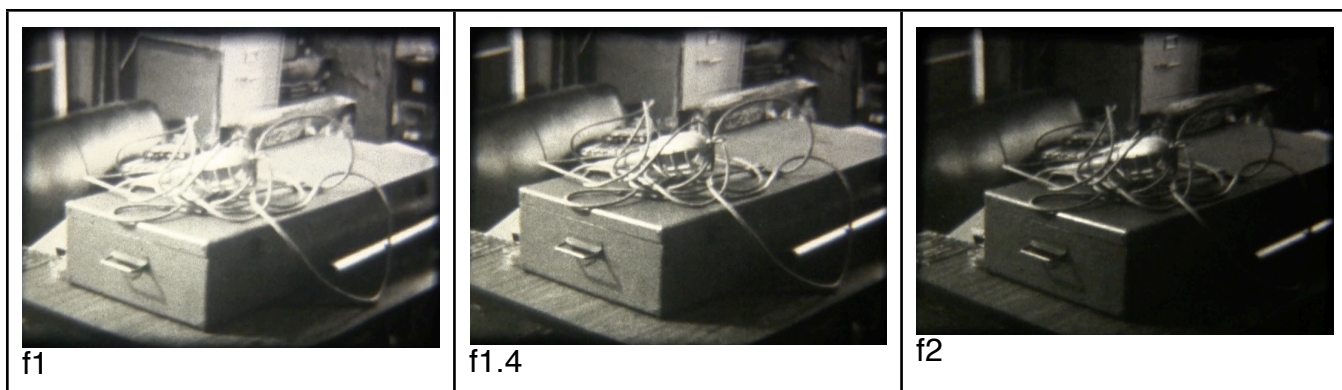




This shot is so interesting all 6 are shown. The distance was 5 feet 1.5m 10+1 fc.



Over on the table on the other side of this wall is a titler with a light cord on it. I pulled the string on the light that is way over to the left of the pictures. 9' away.



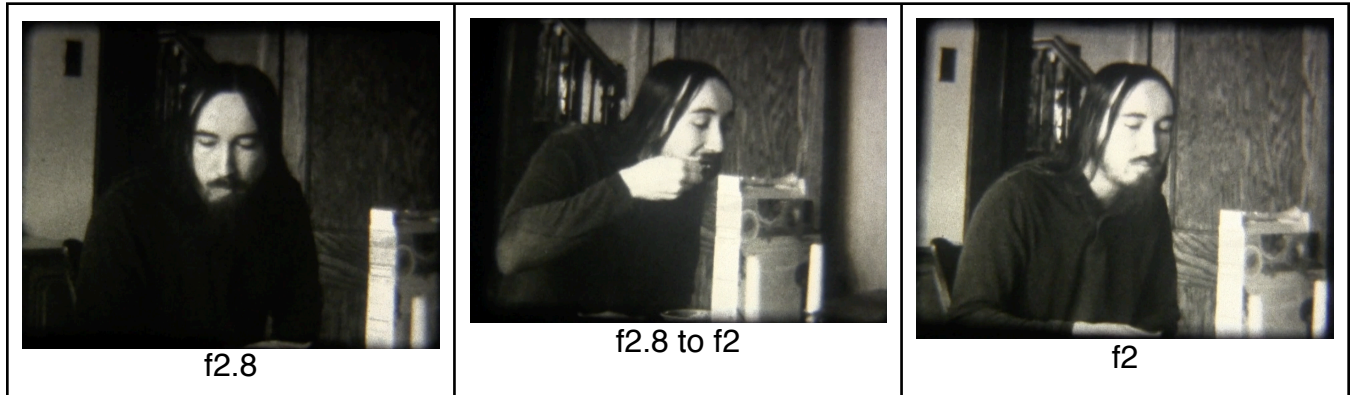
2.74m, left line on 2m. 7.5 fc at the lamp on the box. The box is a dark gray. Some exposures are left out here. Upstairs is next.



I sat in the rocking chair. f2.8 is about how it looked. Pretty dim in there. I was about 24 feet away from the wall. The left line was on the 5 and the right line was on the 40. The center pointer line was to the left of the line near the 40.

Leader was run off at the end of the roll and some was also run off at the start of side 2 in order to make a full width of black leader to compare to a 16mm film. This leader turned out to be much darker than that which was developed the same 1 3/4 hours in LQR at 68 degrees F.

Side Two. On this side I wanted to photograph people. I assumed that the last 16mm test was correct and that the film was 1600 asa. I ran a full wind of myself in the rocker then James. Just in case, I bracketed James. Good thing.



The f2 exposure looks good on the movie screen and the projector had the wide angle lens on it, which is darker than the one used further back. 20- foot candles. 8 feet away, the left line was on the 2m mark. Leader was made on the end. That is at least 200 asa.

Notes for 'Bright'

A full roll of regular 8mm Foma R-100 was shot and developed. The UPB 1-A tank had to be used. All of the film fit onto one 50 foot gray plastic reel afterwards.

125 ml LQR was filled up to 1250ml with filtered water. I wanted to save on developer. It comes in 250ml bottles. However, there is variations on the left side of the picture, the top in the tank, because there was not enough fluid used. 1500ml is the minimum I used to use and now will be my go to.

68 degrees Fahrenheit in a water bath after a 5 minuet pre soak was used. Development was one hour and forty five minuets with six agitations every fifteen minuets. One liter of bleach and one of clear and one of fix were used. I do not know how I get away with that. It has worked for me previously. Better use more though from now on.

The film was dark a lot on the drying rack but a white card behind light portions showed images under a magnifying glass. They were that light. Correctly done. None were too light or totally washed out.

My reasoning was that since this film was shot at 16 fps and not at 24 fps and developed the same way as the 16mm film test it should be lighter, but it is darker, and I added 2/3 more light on James, therefore the film is not the same film as the 16mm Foma, despite the labeling on the box.

The leader is much darker than the 16mm leader.

One end of the film was stamped 1/2 exp. The ends are bumpy. I'll have to look at the unopened film ends.

I have never seen any edge markings on either film stock, but have not looked.

The back of the film was wiped with a dry cloth upon placing it on the drying rack. It remained several hours to dry. The next day I wiped the film with a cloth saturated with FilmRenew, then dried it one time both sides with another rag. It was slit while on the rack after it had dried several hours more. Slit film was held on a rail by placing one film on top and one on bottom with a clip holding them.

F 22 Sat. Even on an overcast day, indoors, without any lights on, R8mm movies can be made - brightly - as if lights were on. I did it several times.

The trick to do so is to measure the light carefully as it is so low.

The corner in the living room that has the print table of drawers had the light measured twice. The Weston was used pointing at it and read .4 while the Sekonic was held over it, while I sat on the floor, pointing the meter away, and it read 10+1. 200 asa was chosen at random. Both readings matched. The exposure came out to be f1.4-1/3 stop towards f2. Amazing!

f2 is what I chose from the video I made of the film projected; the light wasn't measured then, but f2.8 is about how dark it appeared in the bracket. f1.4 looked good also. Interesting.

I would like to repeat the test. Develop 2 hours. Measure the light better. Bracket in 1/3 stops, closer together, not so wide apart. Use a tripod. Shots could be slated or a card included in the scene.

Tests in the Green chair at night on R8 film are needed, with the lights on. No daylight in these tests. Short loops could be made.

Better focus and wider depth of field will result by pushing the film more and using smaller apertures.

The light in the darkroom is one daylight bulb in the ceiling. 10- foot candles is all. That setup is similar to the living room one of the Green chair, only the lights are Tungsten there.

Hand held movies blur and obscure details especially with videos made of projected movies.

A newspaper could be photographed in focus brackets at one exposure to find out if any settings are better than others.

I'm done for now. 8:33 Saturday February 22, 2020